THE
CANADIAN
INTERNATIONAL
TRADE TRIBUNAL

AN INQUIRY INTO THE COMPETITIVENESS OF THE CANADIAN FRESH AND PROCESSED FRUIT AND VEGETABLE INDUSTRY

December 1991

REFERENCE NO. GC-90-001

AN INQUIRY INTO THE COMPETITIVENESS OF THE CANADIAN FRESH AND PROCESSED FRUIT AND VEGETABLE INDUSTRY

Canadian International Trade Tribunal

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FOREWORD

This report completes an 18-month inquiry into the problems and prospects of Canada's fresh and processed fruit and vegetable industry. We began our work in June 1990, when the Government, acting at the request of the Canadian Horticultural Council (the CHC) (the growers), with the support of the Food Institute of Canada (the FIC) (the processors), asked us to examine and assess the competitiveness of the industry.

When we began our work, we recognized immediately that our task was daunting. The fresh and processed fruit and vegetable industry is complex, dynamic and varied. It is an industry about which generalizations are hazardous. It involves a great variety of products, important differences between fresh crops and crops for processing, and significant regional variations.

We learned that to understand the industry, we could not focus only on major crops, such as apples, potatoes, mushrooms and tomatoes. We needed to know something about dozens of products from many different growing areas. We realized there were lessons for success in even the smallest-scale industries, such as British Columbia's kiwi fruit production and Saskatoon berry cultivation in the Prairies.

We also recognized that the horticultural industry in Canada has more reason than any other branch of agriculture to be alert to the implications of the Canada-U.S. Trade Agreement (CUSTA). Here is an industry that produces perishable crops in season, but often in a slightly later and lower-priced season than its competitors in the northern states. Here is an industry that must win back its own consumers every year. Here is an industry that for many products is a residual supplier in its own market. Here is an industry that is losing much of its trade protection with the phasing out of seasonal tariffs between Canada and the United States. And here is a processing industry that wonders if its costs will come down as rapidly as its tariff protection.

The rest of agriculture faces rather different circumstances. The supply-managed sector does not meet the full rigour of international competition. The meat and livestock sector is not seasonal, and long has been accustomed to competing on a North American basis, in a largely tariff-free environment. The grains sector is in crisis, but is far more concerned about international issues than CUSTA; furthermore, its products are much less perishable than horticultural crops, and it faces less short-term volatility in prices.

Despite the industry's request that we undertake this inquiry, we found, at the outset, a certain apprehension on the part of many growers and processors about what the inquiry would produce. Some felt the inquiry would have been more useful if it had been undertaken two or three years before CUSTA took effect, not a year and half after. Others felt that the industry had already been "studied to death" and that studies had served as an excuse for government delays, not as a basis for action. There was also bitterness that reports which followed the negotiation of CUSTA seemed to depict both the fresh and processed industries as being among the losers in free trade.

Fortunately, as the inquiry got under way, this initial reticence faded. We discovered that the industry, in all its facets and in all regions of Canada, was eager to tell its story and to assist our staff and consultants with their research. In hearings from one end of the country to the other, we gathered testimony and written submissions offering a wealth of information and wisdom about the performance and prospects of the industry.

The industry took full advantage of the inquiry as a means of self-examination, and as a platform for its views. On a number of occasions, producers and processors demonstrated their common cause by making joint presentations to us.

The more we talked with people and found out what was going on in the industry, the more bullish we became about its prospects. While the story varies from product to product and region to region, it seems to us that Canada's fresh and processed fruit and vegetable industry as a whole has performed well over the past decade. The positive way in which it has been reacting in recent years to the pressures of free trade, high interest rates, a high dollar and slower economic growth gives us confidence that it will do well in the future.

The industry recognizes that it is operating in a world of falling trade barriers, tight government budgets and consumers who are increasingly cost and quality-conscious. It knows that much of its future success will depend on its own efforts. However, it looks to governments to improve the regulatory framework under which it operates in order to remove obstacles to success.

On two matters in particular, pesticides and CUSTA implementation, we share the industry's view that government action is needed. We believe that Canada's policy on pesticides should be overhauled to allow our producers a greater choice of products at lower costs, while still meeting high standards of health, safety and environmental protection. With respect to free trade, the industry feels that CUSTA so far has been largely a tariff deal and not a fully balanced trade arrangement. We agree with the industry that the Canadian and U.S. governments must breathe more life into the CUSTA working groups which aim at reducing barriers to trade caused by differences in areas such as health, safety, labelling and quality standards. Steady two-way progress on these issues would give our industry a bigger world in which to prosper.

This report is only the tip of the iceberg. Under it lie hundreds of pages of producers' and processors' submissions and testimony, and of research by our staff and consultants. We hope that all of these materials will be referred to for some time to come by the private and public sectors, as they make joint efforts to strengthen the fruit and vegetable industry.

We would like to thank the dozens of fruit and vegetable producers and processors who worked with us on this inquiry. We have developed a great deal of respect and admiration for the industry and those who make it work. If we have succeeded in dealing adequately with the multitude of issues that emerged, it is because of their ready assistance and sometimes very candid criticisms.

We also owe a great deal to the Tribunal's staff and consultants for their data collection and analysis, and for organizing the public hearings and other contacts with the industry. We heard many kind words in the course of our inquiry about the staff's courtesy and professionalism.

As we were completing this inquiry, "competitiveness" was becoming the focus of discussion on Canada's economic policy. Concerns about our competitiveness as a country were prompting responses from business, labour, educators and governments.

In this context, we believe our report is timely, as it represents one of the first completed studies in the area of competitiveness. Indeed, our report is more than a

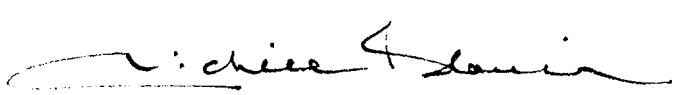
study; it contains many practical observations and recommendations on how to improve the competitiveness of the horticultural industry in Canada.

It may be appropriate to point out that the business end of all studies on competitiveness must be action. If we are going to enhance the competitiveness of Canadian industry, we are going to have to change somehow the way we do things. Our report may be short on models and "paradigms" of competitive success, but it is rich in research and in the experience and wisdom of the fruit and vegetable industry. Furthermore, the inquiry process itself has encouraged the industry to consider options and plans for improved performance. It has given the various participants an opportunity to exchange views and ideas, test one another's attitudes and clarify competitiveness priorities.

The industry and government must now move together to build a more competitive industry. Most producers and processors recognize that the federal and provincial governments can play only supporting roles. However, such supporting roles are vitally important in improving various framework policies and programs and in removing many obstacles to success. Early action in these areas is not only essential, but will demonstrate in concrete terms the overall commitment of government to improve the competitiveness of this industry.

In closing, we want to say that we felt privileged and honoured to carry out this important inquiry. We hope our report will prompt the industry and governments to take actions which will strengthen Canada's fresh and processed fruit and vegetable industry.

John C. Coleman
Presiding Member



Michèle Blouin
Member

Charles A. Gracey
Member

TABLE OF CONTENTS

Page

FOREWORD i

CHAPTER I — CANADA'S FRUIT AND VEGETABLE INDUSTRY: PERCEPTIONS AND REALITY 1
1. Introduction 1
2. Ten Perceptions and Realities 2
(a) Canada's Climate and Location 5
(b) The Question of Costs 6
(c) Cost-Price Squeezes Everywhere 8
(d) The Subsidy Puzzle 9
(e) Government Inattention 10
(f) The United States, North America or the World? 11
(g) Interprovincial Competition and Trade Barriers 12
(h) Marketing Boards: What is their Role in Competitiveness? 13
(i) The Challenges of Free Trade, High Interest Rates and a High Dollar 14
(j) The Frustrating Problem of Pesticides 15

CHAPTER II — COMPETITIVENESS PARTNERSHIPS: PROPOSALS FOR ACTION 19
1. Federal Government 19
2. Provincial Governments 24
3. Producers 25
4. Processors 27
5. Distributors 28

CHAPTER III — FRESH FRUIT AND VEGETABLE INDUSTRY OVERVIEW 29
1. Introduction 29
2. Vegetable Crops 31
3. Farms Growing Vegetables 41
4. Fruit Crops 44
5. Farms Growing Fruits 49
6. Regional Perspective 52
7. Summary of Market Performance 54
8. Industry in Perspective 55

Page

CHAPTER IV — PROCESSED FRUIT AND VEGETABLE INDUSTRY OVERVIEW ... 61
1. Introduction ... 61
2. Industry Structure ... 62
3. Domestic Market ... 64
   (a) Shipments ... 64
   (b) Imports ... 66
   (c) Exports ... 69
4. Apparent Market ... 70
5. Industry Performance ... 73
   (a) Financial ... 73
   (b) Employment and Earnings ... 75
   (c) Productivity and Investment ... 77
6. Processing Industry Rationalization ... 79
   (a) Mergers and Acquisitions ... 79
   (b) New Investments ... 79
   (c) Plant Closures ... 80
7. Industry in Perspective ... 81

CHAPTER V — MARKETING, CONSUMER TRENDS AND DISTRIBUTION ... 85
1. Introduction ... 85
2. Marketing: Fresh Fruits and Vegetables ... 86
   (a) Federal ... 86
   (b) Provincial ... 88
      (i) British Columbia ... 88
      (ii) Prairies ... 90
      (iii) Ontario ... 91
      (iv) Quebec ... 94
      (v) Atlantic ... 96
3. Consumer Trends ... 98
   (a) Demographic and Lifestyle Trends ... 98
   (b) Consumption Trends ... 98
   (c) Challenges and Opportunities: Know your Consumers and their Expectations ... 99
      (i) Quality/Freshness ... 99
      (ii) Variety ... 100
      (iii) Convenience ... 100
      (iv) Nutrition and Safety ... 100
      (v) Environmental Friendliness ... 100
4. Procurement Policies of Distributors ... 101
   (a) Characteristics of Distributors ... 101
   (b) Factors that Affect the Purchasing Decisions of Fresh Produce Distributors ... 103
   (c) Factors that Affect Distributors' Purchases of Processed Produce ... 105

Page

CHAPTER VI — GOVERNMENT ASSISTANCE AND SUPPORT 107
1. Introduction 107
2. Financial Assistance 107
3. Summary Results 110
4. Financial Assistance to the Fresh Fruit and Vegetable Sector 110
(a) Overall Level of Financial Assistance 110
(i) Alternative Methodology 112
(b) Types and Sources of Financial Assistance 113
(i) Types of Interventions 113
(ii) Contribution of Selected Interventions to PSE Measures 114
(iii) Sources of Intervention by Level of Government 117
(c) Tariffs as Government Intervention 118
(d) Taxation Measures as Government Intervention 119
(e) Safety Net Measures 120
5. Financial Assistance to the Processed Fruit and Vegetable Sector 121
(a) Overall Level of Financial Assistance 121
(b) Types and Sources of Financial Assistance 122
(i) Types of Intervention 122
(ii) Sources of Intervention by Levels of Government 123
(c) Tariffs as Government Intervention 123
(d) Taxation Measures as Government Intervention 124

CHAPTER VII — TAXES, TARIFFS AND REGULATIONS 125
1. Introduction 126
2. Taxation: A Comparison of Relevant Provisions in Canada and the United States 126
(a) Personal Income Tax Provisions 126
(i) Methods of Computing Income 127
(ii) Flexible Inventory Valuation 127
(iii) Restricted Farm Losses 128
(iv) Pre-Production Expenses 128
(v) Depreciation 129
(vi) Capital Gains 129
(vii) Mortgage Interests 130
(viii) Impact of Personal Income Tax on Horticultural Farmers 130
(b) Income Tax Provisions Affecting Processors 131
(i) Determination of Taxable Income 132
(ii) Depreciation 132
(iii) Loss Provisions 133
(iv) Tax Rates 133
(v) Investment Tax Credits 134
(vi) Large Corporations Tax and Alternative Minimum Tax 135
(c) Other Federal Taxes 135
(i) Goods and Services Tax (GST) 135
(ii) Federal Excise Taxes on Gasoline and Diesel Fuel 136

Page

3. Tariff Structures 136
(a) Canadian Tariffs 136
(b) Seasonal Tariffs 136
(c) Year-Round Tariffs 137
(d) Processing Tariffs 137
(e) United States Tariffs 137
(f) CUSTA 138
(g) Snapback Tariff Provisions 138
4. Regulations 139
(a) Health and Safety Regulations 140
(i) The Issue 140
(ii) Canada - U.S. Legislative and Regulatory Contrasts and Comparisons 140
(iii) The Question of Price and Availability 142
(iv) The Question of Tolerance Levels and Border Controls 143
(v) The Pesticide Registration Review Team 143
(b) Marketing Regulatory Issues: Quality and Grade Standard Regulations for Fresh Fruits and Vegetables 144
(c) Marketing Regulatory Issues: Packaging and Labelling Regulations for Processed Products 146
(d) Harmonization of Standards 148

CHAPTER VIII — PRODUCER AND PROCESSOR COSTS 151
1. Introduction 151
2. Producer Costs 152
(a) Labour 152
(i) Minimum Wage Rate 153
(ii) Offshore Labour Program 155
(iii) Comparison 155
(b) Machinery and Equipment 158
(c) Chemicals 161
(d) Land 161
(e) Packaging Costs 165
(f) Commercial Seed and Plants 165
(g) Interest and Exchange Rates 165
(h) Summary 169
3. Processor Costs 169
(a) General 169
(b) Raw Product Cost 171
(c) Supplies (Packaging) 173
(d) Labour (Wage Rates) 174
(e) Overhead costs 176
(f) Utilities 176
(g) Interest Rates 177
(h) Summary 178

Page

CHAPTER IX — COMPETITIVENESS OVERVIEW 179
1. Introduction 179
2. Framework for Assessing Cost Competitiveness 180
3. Productivity 183
4. Assessment of Cost Competitiveness 190
   (a) Growers 190
   (b) Processors 195
   (c) Overview of Market Share 196
   (d) Market Share by Commodity 198
5. Competitive Challenges to the Domestic Industry 199
   (a) Higher costs generated by the Canadian economy 199
   (b) Government imposed higher costs 199
   (c) Insufficient emphasis on productivity 199
   (d) Lack of export orientation 200
   (e) Weak marketing strategies 200
   (f) Declining protection for the domestic industry 200
6. Success Stories 201

CHAPTER X — HORTICULTURAL TRADE WITH MEXICO 203
1. Introduction 203
2. Size of Two-Way Trade 204
3. Canadian Imports of Fresh and Processed Fruits and Vegetables 205
   (a) The Major Processed and Fresh Produce Imports 206
   (b) The Major Horticultural Imports from Mexico 208
   (c) Timing of Mexican Imports 208
   (d) Tomatoes 210
   (e) Peppers 211
   (f) Onions and Shallots 212
   (g) Other Fruits and Vegetables 214
4. A Comparison of Tariff Regimes Covering Imports of Fresh and Processed Horticultural Products 215
5. Labour 216
6. Likely Impact on Horticultural Trade between the United States and Mexico 218
7. Potential for Increased Canada-Mexico Horticultural Trade 219

LIST OF FIGURES 223

LIST OF TABLES 224

Page

APPENDICES

Appendix A — Conduct of the Inquiry 228
Appendix B — Order in Council: Terms of Reference 230
Appendix C — Research Program and List of Publications 231
Appendix D — List of Witnesses 234
Appendix E — List of Submissions and Exhibits 244
Appendix F — Thirty-Two Vegetable and Fruit Crops 250
Appendix G — Canadian Supply and Disposition 251
Appendix H — Selected Measures from the Fresh Fruit and Vegetable Profile 264
Appendix I — Marketing Channels 266
Appendix J — Activity of Regulatory Boards, by Province 267
Appendix K — Commodities and American States Included in Analysis of Government Interventions 269
Appendix L — Comparison of Canadian and U.S. Tariff Rates 270
Appendix M — Selected Bibliography 272
Appendix N — Tribunal Staff 276

CHAPTER I

CANADA'S FRUIT AND VEGETABLE INDUSTRY: PERCEPTIONS AND REALITY

1. Introduction

We have found in this inquiry that Canada's fresh and processed fruit and vegetable industry is one of the more dynamic parts of Canada's agricultural and food processing industries. It is also a good size. In 1989, fresh fruit and vegetable production had a farm value of $1.5 billion,[1] while the processed sector's shipments were valued at $3.6 billion. Nonetheless, many inside and outside the industry regard it as a small, struggling and almost forgotten part of the agri-food sector.

Because of our relatively short growing season, it is not surprising that *per capita* production of fresh fruits and vegetables in Canada should be less than that of the United States. What is remarkable, is how close in proportionate size are the two industries. Our industry is roughly 9 percent that of the U.S. industry, not counting U.S. production of citrus and tropical fruits. Furthermore, our industry has been more successful in meeting rapid increases in the consumption of fresh fruits and vegetables. During the 1980s, Canada's consumption, production and exports grew more rapidly, and our imports and import dependence grew more slowly than that of the United States. In 1988, our fresh fruit and vegetable industry supplied just over 50 percent of Canada's consumption of non-citrus and non-tropical fruits and vegetables, more than one might expect given the length of our growing season and consumers' growing stress on freshness.

The record of the processing sector in the 1980s is equally impressive when seen in a North American context. Its shipments in 1988 were valued at just over 9 percent of those of the United States. During the decade, Canada's consumption, shipments and exports of processed fruits and vegetables also grew more rapidly, while our imports grew less rapidly in value, and our import dependence fell markedly compared to that of the United States. In 1988, Canada's processed fruit and vegetable industry supplied 75 percent of our consumption. During the 1980s, its profitability and productivity performance exceeded that of the food processing industry as a whole and of total manufacturing.

Such an encouraging picture is not what many inside and outside the industry would expect. As in any human enterprise, the concerns and doubts tend to exceed more positive thoughts. Both the fresh and processed sectors are anxious about the future and not really satisfied about the past.

While it is too early to tell how free trade will affect the industry, its growing reality conditions much of its thinking. This is an industry that traditionally has measured itself by U.S. yardsticks and will do so more and more in the next decade. This is an industry which, in testimony and submissions to us, expressed concerns about its ability to be cost-competitive with its U.S. counterparts as CUSTA is implemented. This is an industry which, in seemingly contradictory fashion, reacted sharply to the results

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1. Fruits and vegetables sold in the fresh market and to processors.

of Tribunal-sponsored research which suggested that some of its costs appeared to be higher.

How do we separate perceptions from reality when looking at an industry as complex as this? Many of the perceptions turn out to be real, and most are not completely untrue.

We are not saying that "perceptions" are untruths; they are more the simplified versions of reality on which people base their actions. If, for example, the public, governments and even the players in an industry regard that industry, or part of it, as fundamentally uncompetitive, even if it is not, their behaviour towards it may be characterized by indifference, inattention, defensiveness and inaction.

In this chapter, we want to discuss some of the perceptions about the industry which are held by the general public, governments, and producers and processors themselves. We will base ourselves on what we learned in public hearings, in visits to farms and processing plants, and through our research program.

Succeeding chapters of our report attempt to offer a comprehensive and factual picture of Canada's fruit and vegetable industry. This chapter is not an "executive summary" of the report. It draws selectively from the report and does not follow the overall plan. For the convenience of the reader, from Chapter III on, each chapter begins with a "highlights" section.

2. Ten Perceptions and Realities

We want now to explore ten commonly held perceptions about Canada's fresh and processed fruit and vegetable industry, particularly as they may affect the behaviour of the industry's stakeholders. We will set them out in summary form before discussing them in more detail.

Canada's Climate and Location

Perception: Canada is too cold and too distant from markets to be competitive with the United States in fruit and vegetable production.

Reality: Canada's growing conditions for most fruits and vegetables compare favourably with those of the northern United States. Our best producers can attain yields comparable to those in the leading states, including California. Much of our industry is located close to major markets in Canada and the North-eastern United States, and, in these markets, has a transportation advantage over the U.S. south-west.

The Question of Costs

Perception: The high cost of doing business in Canada makes our producers and processors uncompetitive.

Reality: Our studies showed that, on balance, Canada's production and processing costs are moderately higher than those in the United States, especially when measured on a cost per unit of output or output per worker basis. The main higher cost factors

were pesticides, interest expenses, fuel and packaging. Producers, processors and their suppliers are working to get costs down as Canada-U.S. tariffs come down. In any event, costs are not the sole determinants of competitiveness. Even without tariff protection, the industry can still exploit advantages in transport costs, quality, freshness and consumer loyalty.

Cost-Price Squeezes Everywhere

Perception: Our producers and processors are caught in a cost-price squeeze; the high margins of wholesalers and retailers give them a disproportionate share of the profits from fresh and processed fruit and vegetable sales. Furthermore, the distribution sector gives little or no preference to Canadian produce, fresh or processed.

Reality: Canadian distributors' margins, particularly on fresh produce, do appear to be high. However, the distributors claim that they also are being squeezed, in their case, by increasingly demanding and price-conscious consumers. Canadian supermarket chains' net profits on sales are about 1 percent, comparable to those of the United States. Supermarkets will respond to consumers' preference for local products when they match imported products in quality, attractiveness and freshness, but they will not pay premiums to local producers. There is evidence that supermarket chains often play local producers off against one another, and so drive hard bargains with them.

The Subsidy Puzzle

Perception: Subsidized U.S. production makes it even harder for our industry to compete.

Reality: While neither the Canadian nor the U.S. industry is heavily subsidized, our industry receives somewhat greater overall levels of support than does that of the United States. When Canada-U.S. tariffs are phased out, our fresh sector will be relatively more protected by other support measures than that of the United States, but our processing sector will be less protected than its U.S. counterpart. Federal and state water subsidies in California and the south-west are being gradually phased out and are already quite small when measured by "producer subsidy equivalents" (PSEs).

Government Inattention

Perception: Governments pay little attention to the fruit and vegetable industry.

Reality: The federal and provincial governments have not adopted an organized approach to further the industry's competitiveness, either by direct measures or by framework policies.

The United States, North America or the World?

Perception: Competitiveness vis-à-vis the United States is what counts; North American Free Trade Agreement (NAFTA) won't make a big difference.

Reality: The industry's main external market and outside competitor will continue to be the United States. The North American market as a whole is being more and more influenced by offshore competition. However, NAFTA is not likely to have a marked effect on Canada's exports and imports of fruits and vegetables with Mexico.

Interprovincial Competition and Trade Barriers

Perception: Interprovincial competition and trade barriers can be as important as international competition.

Reality: Interprovincial competition is quite important for many fruit and vegetable products. Interprovincial trade barriers are relatively insignificant in this industry, but are the source of needless irritation and cost.

Marketing Boards: What is their Role in Competitiveness?

Perception: Provincial marketing boards and commissions affect the competitiveness of the entire industry, both fresh and processing.

Reality: Fruit and vegetable marketing boards vary greatly in their powers, methods of operation and effectiveness. Many are now taking a more flexible, market-oriented approach to negotiations with processors on price, quantity and quality. They recognize that such moves will promote the long-term competitiveness of the total industry.

The Challenges of Free Trade, High Interest Rates and a High Dollar

Perception: Free trade, high interest rates and a high dollar are currently the greatest challenges facing the industry.

Reality: Free trade is probably the greatest of these challenges, though the industry expressed more concern during our inquiry about the effects of high interest rates and a high Canadian dollar. While free trade so far has meant mainly tariff reductions of about one-third and appears to have had little effect on imports or exports, the industry is adjusting as quickly as possible to face the full effects of CUSTA.

The Frustrating Problem of Pesticides

Perception: Canadian policy on pesticides is an enormous irritant for the industry and a real obstacle to its success.

Reality: Canadian pesticide policy has taken little or no account of the competitiveness of the fruit and vegetable industry. Canadian pesticide prices are much higher than in the United States and some essential pesticides are not available. Yet, imported produce grown with the help of pesticides not licensed or available in Canada is admitted into this country provided it passes certain residue tests.

(a) Canada's Climate and Location

For most fruit and vegetable products, Canada is often seen to be at a natural disadvantage to the United States because of our shorter growing season and relatively small area available for cultivation. Furthermore, from an export standpoint, many in the industry feel distant from the largest North American markets. The fresh industry also finds cold comfort in being compared favourably to growers in the Northern United States, when it sees the real competition in North America as coming from California and the State of Washington.

There is no doubt that much of Canada's horticultural industry works at the climate frontier and faces challenging conditions. However, the record shows that these conditions do not seriously affect the industry's competitiveness.

B.C. producers consider their growing conditions to be broadly comparable to those of the State of Washington, which, for many products, rivals or exceeds California in output price and quality. Ontario producers operate well below the 49th parallel, in comparable growing conditions to competitors in Wisconsin, Michigan, Ohio and New York. The Maritime potato industry operates under similar climate and soil conditions to that of Maine and has outperformed Maine in recent years.

The Alberta and Manitoba potato industries face only a slightly more severe climate than their competitors in neighbouring states. Our industries are successful nonetheless; their lower yields per acre are offset by lower costs for land and water than in southern and western states. Their use of pesticides can also be lower because the cool, dry climate helps control many insects and plant diseases. Moreover, their product faces little import competition because of its relatively high transport costs.

In addition to potatoes, several products such as apples, blueberries, raspberries, mushrooms, root vegetables, cabbages, peas, beans and greenhouse vegetables grow as well in northern latitudes as in southern areas or better.

Canadian growing conditions can't match those of California, but neither can those of many other U.S. states. Nonetheless, fruit and vegetable production in the northern states continues to expand, even within the U.S. common market. Furthermore, despite industry averages which may be less impressive than those in the United States, many of our producers and processors can match, or exceed, the performance of Americans in neighbouring states, and even of California. The best tomato growers in South-Western Ontario, for instance, are now attaining yields per acre comparable to California averages.

Most of our major growing areas also are well situated, closer to large metropolitan centres in Canada and the United States than much of the U.S. west-coast industry. Transport costs thus give our industry a built-in competitive advantage on both imports and exports.

(b) The Question of Costs

In their testimony and submissions, a frequent theme of industry representatives was that Canada is an expensive place in which to grow and process fruits and vegetables. Most of them considered that our costs were higher than in the United States, because of higher interest costs, higher wages and fringe benefits, higher income, property and sales taxes, higher land costs and higher costs for inputs such as pesticides and packaging.

The Tribunal's staff and consultants put a great deal of effort into investigating the question of input cost differences between the Canadian and U.S. industries. Enormous measurement problems exist in this area, even when product-by-product and region-by-region comparisons are made. The weight of Tribunal research and of other recent studies indicates that Canada's situation is not greatly out of line with that of the United States, but that our production and processing costs are generally a little higher, on average, especially when measured on a cost per unit of output or output per worker basis.

The Tribunal's research found that personal and corporate tax provisions and rates applying to farmers were broadly comparable in Canada and the United States, but that federal excise taxes on gasoline and diesel fuel are considerably higher in Canada than in the United States, where taxes on fuels used off-highway by farmers are fully rebated.

With respect to labour costs, a Tribunal study found that average wage costs for farm workers in Ontario, including seasonal workers temporarily entered from Mexico and the Caribbean, were slightly lower than those in New York state. However, data problems prevented the Tribunal from comparing labour productivity in fresh fruit and vegetable production between Ontario and New York.

According to industry testimony, machinery and equipment prices in Canada and the United States are comparable, though the cost of financing them is greater in Canada. While Canadian prices of fertilizers were found to be comparable to those in the United States, Canadian pesticide prices were consistently higher by significant margins. The Tribunal noted that land prices, as a general rule, reflect the value of the crops produced on them and, on that basis, probably were generally comparable with those in the United States. However, a good deal of Canada's prime horticultural land is close to urban centres. As a result, much of it has acquired some speculative value, which has been only partially offset by land use restrictions.

Canadian seed and plant prices appear to be in line with those of the United States. The cost of packaging for fresh and processed fruits and vegetables is generally higher in Canada than in the United States, though packaging prices should equalize once free trade is fully implemented. We heard testimony from packaging and container makers, such as Crown Cork and Seal, which demonstrated their progress in becoming fully price competitive well before CUSTA is completely implemented.

Matters of great concern to producers, according to their testimony to the Tribunal, were the recent high levels of interest rates in Canada compared to those in the United States and the correspondingly high relative value of the Canadian dollar. High real interest rates in the recent period have made the financing of inventories, equipment and land more expensive for Canadian horticultural producers. At the same time, the Tribunal found no conclusive evidence that their use of credit was any greater than the rest of Canadian agriculture or of U.S. horticulture.

In principle, the high level of the Canadian dollar should have made exporting less profitable and imports more attractive to consumers. However, we found no evidence that the overall pattern of trade in fruits and vegetables had been changed by the appreciation of the dollar, though particular products may have been affected. Moreover, the high dollar has helped moderate the general inflation rate, thus helping to restrain producers' wage and other input cost increases. It also has encouraged the industry to make greater efforts to improve productivity.

Overall, the Tribunal's review of grower costs showed that the total cost of producing an acre of fruits or vegetables is, on average, slightly higher in Canada than in the United States. The key factors appear to be pesticides, interest expenses, fuel and packaging.

Much controversy has surrounded the issue of processors' "raw product costs" and processors' suggestions, many of them well documented, that these are higher in Canada than in the United States. Producers generally dispute these claims, arguing that the differences reflect tariff and transportation costs.

It is very difficult to reach definite conclusions on this issue because of definitional and measurement problems. For one thing, "growers' costs" and the prices they receive are not the same as processors' "raw product costs." The latter often include such things as transport to the processing factory, culling, washing and sorting. Sometimes processors may even supply the seed, and plant, spray and harvest the crop. Every processor, even sister companies of multinational enterprises, has a different definition of raw product costs, depending on local growing conditions. National grade regulations also have a bearing on raw product costs. For instance, the proportion of vegetables to water and other ingredients is higher in Canadian than in U.S. canned vegetables. Despite all these qualifications, it does seem clear that higher grower prices translate eventually into costs of raw product for processors which on average, but not in all cases, are higher in Canada than in the United States.

Raw product costs, for all the attention which is paid to them, are not necessarily the greatest challenge facing Canada's food processors. One study commissioned by the Tribunal found that in the case of canned vegetables, raw product costs (which, as explained above, are higher than crop costs) accounted for only 22 percent of total costs, though the share for frozen vegetables was 43 percent, still well below half of total costs.

Like growers, processors face higher packaging costs than their U.S. counterparts, though the gap is narrowing rapidly. With respect to electricity and natural gas prices, it appears that processors in the two countries pay, on average, about the same, though there are regional differences.

Canadian processors' labour costs, on an hourly basis, seem to be a little higher on average than in the United States, and Canada's industry is, generally, smaller scale and more diversified. These factors, combined with shorter production runs connected with our shorter growing season, give rise to lower labour productivity and higher labour costs per unit of output. Overhead costs are also higher on average in Canada, again because of these differences in specialization, scale and season. Finally, processors repeatedly pointed to the relatively high cost of capital in Canada, i.e., interest rates, as affecting the rate at which they could modernize and expand their operations.

Our final hearings, in September 1991, pointed out an interesting paradox connected to the question of costs. Producers and processors, though they had given us

at earlier hearings much testimony and other evidence pointing to Canada's overall higher costs, were disturbed to see this all confirmed by the Tribunal's own research.

Their explanation for their reaction, however, was entirely reasonable. They did not want suppliers, distributors and investors in processing facilities to conclude mistakenly that their industry was uncompetitive, just at a time when they were cooperating to bring down their costs as quickly as possible. This would happen, as free trade was completely implemented, through their own adjustment efforts and those of their suppliers. In the meantime, it was natural for both producers and processors to "price up to the remaining tariff" and thus be able to tolerate somewhat higher input and overhead costs.

The industry also pointed out that costs, while important in competitiveness, were not the whole story; factors such as quality, freshness and consumer loyalty were equally significant. What worried producers and processors most, however, were the things over which they had no control, such as plans in some provinces for sharp increases in minimum wages, high pesticide prices which were insulated from free trade because of the ban on imports and a still high Canadian dollar.

In sum, the industry felt it could adjust and remain competitive after free trade was fully implemented, provided government policies were adjusted to create a lower cost, more favourable business environment in Canada. The Tribunal shares the industry's view on this point.

(c) Cost-Price Squeezes Everywhere

Canadian producers and processors see themselves as caught in cost-price squeezes. Producers believe they must meet North American market prices while paying more for inputs than their U.S. counterparts. Processors also feel driven by market prices and believe that they are paying higher raw product prices than U.S. firms, and meeting other higher input prices. Both producers and processors feel that the wholesale and retail trade are capturing the bulk of the consumer's fruit and vegetable dollar. The wholesalers and retailers, in turn, say that their margins are very low because of fierce competition for the loyalty of increasingly demanding consumers.

In its research program, the Tribunal commissioned a consultant to investigate the procurement policies of the distribution sector. A common concern of both producers and processors is the effect on their revenues of distributors' volume rebates, advertising allowances, and shelf space and listing premiums. Our research found that these practices, on average, amounted to about 5 percent of sales revenues for fresh producers, but could go as high as 30 percent of processors' sales revenues. However, we found no evidence that Canadian distributors' practices differed much from those in the United States. Moreover, retail after-tax profit margins in Canada and the United States are comparable, at around 1 percent of sales.

Against this evidence is the fact that supermarkets increasingly regard their produce sections as being among their higher profit centres. Furthermore, a number of

recent studies have found that part of the reason for higher consumer prices in Canada than in the United States is our relatively less efficient distribution sector.[2]

The measurement of industry profits is fraught with difficulty. It would be even more hazardous to try to judge what constitutes fair profit shares in a value-added chain. It appears that not only producers and processors, but also wholesalers and retailers, are facing cost squeezes. The entire market is being driven by international competition for the loyalty of increasingly demanding consumers.

In addition to their concerns about the cost-price squeeze issue, many producers for the fresh market mentioned to us the difficulty they have in getting chain stores to accept their produce at the time it comes to market. Some believe that the chain stores have year-round contracts with foreign suppliers and importers which they are reluctant to break. They also cite numerous examples of how distributors use their market power to drive hard bargains with individual domestic sellers, particularly in the seasonal fresh market where producers have few storage possibilities and few alternative sales outlets. We received evidence that the chain stores sometimes pay more for imports than for domestic produce, presumably because they are able to "divide and rule" the multiple sellers in the domestic market.

The chain stores' perceptions are different. They claim they are free to shop around, but that many Canadian producers are reluctant to commit themselves to prices and delivery dates more than a few days ahead. They say that Canadian producers are often unwilling to participate, unlike importers, in shared advertising programs which are usually arranged a couple of weeks ahead.

The retail sector generally claims that it likes to give a preference to local produce, particularly when consumer loyalty has been built for it, but that this preference does not involve paying higher prices for local as opposed to imported produce. It cites the reliable and steady supply, consistent quality, large quantities and attractive packaging of imported produce as justifying the higher prices they sometimes pay for it.

In this cost-conscious and very demanding environment, it seems that price competitiveness is essential and sometimes outweighs other competitiveness factors such as quality, attractiveness, freshness, marketing skill and consumer loyalty. Regrettably, though not surprisingly, it also appears that distributors' market power has a large bearing on the prices received by local producers, no matter how good their products are. It is likely that producers of fresh fruits and vegetables would have greater success if they recognized more the advantages of banding together to provide distributors, in timely fashion, with sizeable quantities of uniform quality produce.

(d) The Subsidy Puzzle

A common view among the public, and even in the industry, is that U.S. horticulture benefits from greater government support than ours in areas such as financing, research, extension services and irrigation. In particular, it is often claimed that California has become the North American leader in price, quality and yield only because of large federal and state water subsidies. Some go so far as to say that without

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2. See, for example, the study entitled A Preliminary Study of the Competitiveness of Distribution Channels produced by the consulting firm Ernst & Young for Industry, Science and Technology Canada in March 1991.

subsidized water for its fruit and vegetable production, California would become a state like any other and pose no competitive threat to horticulture in any other state or in Canada.

The Tribunal, with the help of consultants, did an extensive comparison of government support to horticulture in Canada and the United States. We found that in both countries, the fruit and vegetable industry gets relatively little support as measured by "producer subsidy equivalents"(PSEs), compared to some other agricultural sectors.[3] In both countries, the main governmental support comes from customs tariffs, which are being phased out in our two-way trade agreement by 1998.

For fresh fruits and vegetables together, Canada's PSE was found to be 22.6 percent, compared to 18.4 percent for the United States. When tariffs were removed from the PSE calculation, however, Canada's combined PSE was 17.1 percent, compared to 6.8 percent for the United States. In other words, government support for the fresh fruit and vegetable sector is becoming proportionately greater in Canada than in the United States as customs tariffs are being phased out. The main item accounting for somewhat higher levels of non-tariff support in Canada is more generous income stabilization payments to producers.

For processed fruits and vegetables, our researchers found that Canada's total PSE was 24.6 percent, compared to 13.7 percent for the United States; without tariffs, the PSEs were respectively, 0.4 percent and 2.7 percent. This suggests that once free trade is fully implemented, governmental support for the processing industry will virtually disappear in Canada and become quite low in the United States.

With respect to the vexed question of California water, the Tribunal found that most water subsidies for agriculture are being phased out. According to our researchers' estimates, PSEs for water subsidies for California fruit and vegetable production now range from 0.25 percent to 3 percent, depending on the method of calculation. Such values would have little, if any, distorting effect on trade. Moreover, much fruit and vegetable production in California, for example, lettuce in the Salinas valley, is irrigated by non-subsidized ground water. In addition, as water becomes more expensive in California and neighbouring states, and as water conservation techniques improve in the production of fruits and vegetables, these high value-added crops may replace large-scale farming of irrigation-intensive crops such as rice. All this suggests that California, unless its recent years of drought become a permanent problem, will continue to be the pacesetter for the rest of U.S. horticulture and for the Canadian fruit and vegetable industry well after the water subsidies are eliminated.

(e) Government Inattention

Canadian fruit and vegetable producers and processors feel that governments pay little attention to their competitiveness and, indeed, tend to introduce policies and to apply regulations in ways that reduce their capacity to compete. Fruit and vegetable producers see themselves as receiving less than their relative share of the financial assistance directed to Canadian agriculture.

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3. PSEs are a widely used method of measuring subsidies and relate the value of subsidies to the selling price of a crop. They are explained in more detail in Chapter VI.

Governments cite budgetary constraints and international trade obligations as giving little scope to take measures of direct support to the industry.

With the processors, producers see their main source of government support, customs tariffs, disappearing vis-à-vis their competitors in the United States. Seasonal tariffs on fresh fruits and vegetables are being phased out under CUSTA because of the General Agreement on Tariffs and Trade (GATT) requirement that free-trade partners eliminate all tariffs between them.

Some parts of the industry have benefited from tripartite stabilization schemes. These are being replaced by NISA (the Net Income Stabilization Account), but producers are uncertain of its benefits and how to make use of the program.

The industry may appear to be too small and fragmented to induce the federal and provincial governments to adopt an organized approach to furthering its competitiveness. However, the problems faced by the industry are not always crop specific. General policies aimed at reducing costs and increasing quality and yields can be developed and applied. Furthermore, despite the diversity of the industry, its leaders on both the fresh and processing sides are able to represent clearly industry views on what would be helpful general government policies.

Opportunities for more direct assistance to the industry in the form of price and income stabilization are probably quite limited and, in any event, are not always sought by the industry. However, the entire industry does look to governments to adjust, where possible, "framework" policies on matters such as minimum wage legislation, marketing boards' powers, access to pesticides, interest rates and the value of the dollar. The Government must also play a key role in addressing and resolving some of the remaining trade irritants and non-tariff barriers which impede trade in fresh and processed fruits and vegetables between Canada and the United States.

Provincial government interventions are important in the area of framework legislation for marketing boards. As we explain later, it is not possible to make generalizations on whether these bodies promote or impede the competitiveness of both producers and processors. The experience varies from province to province and product to product.

(f) The United States, North America or the World?

The Canadian fruit and vegetable industry is not unique in regarding the United States as its most important foreign competitor and foreign market. The industry does not appear to regard Mexico, at least in the short term, as a serious factor in our import and export trade, even if NAFTA is established. Mexico, like the European Community (EC) and southern hemisphere countries, is regarded as important in certain product markets at certain times of the year, but not as a general problem or opportunity for the Canadian industry. The industry tends to see the NAFTA negotiations mainly as offering possibilities for improving CUSTA, rather than as significant in their own right.

In the face of falling trade barriers, many in the industry are trying to decide whether to concentrate on being import competitive, or being export competitive and relying more on foreign markets for their growth.

The industry's preoccupation with the United States is understandable and natural. The proximity of the United States and its importance in world production of so many fruits and vegetables will make it always the major factor in our trade in fruits and vegetables. In particular, California is rightly seen as the North American price and quality leader on a wide variety of fruits and vegetables produced in Canada. While the Canadian industry suspects that some of California's success comes from subsidized water for irrigation, it also recognizes that state's advantages in climate, growing season, soils, abundant labour force, quality control, marketing and a critical mass of expertise.

Despite the U.S. focus, our producers and processors are becoming more and more conscious that the North American market is being influenced by world prices, especially in internationally traded products such as apples and tomato paste. They recognize that the export of "Californian" production, processing and marketing techniques to countries such as Mexico and Chile, is making them increasingly competitive in our market. They see also that, in the longer run, the increasing wealth and openness to trade of such countries should offer interesting export opportunities to the Canadian industry. Trade statistics show that our third-country imports of fruits and vegetables are increasing more rapidly than our imports from the United States. As well, a number of producers and processors have expanded sales outside the United States in products such as frozen blueberries and french fried potatoes.

It is obvious that the Canadian industry's margin of protection in the domestic market will steadily shrink as tariffs come down, non-tariff barriers are removed, and transport costs and shipment times fall. For these reasons, the industry has no option but to become fully competitive against imports. This is the essential first step to becoming export competitive. Increasingly, the Canadian industry will have to serve a broader market, beginning in North America. It must already take into account worldwide import competition. Increasingly, it will have to try to serve global markets.

(g) Interprovincial Competition and Trade Barriers

Because of the regional dispersion of the industry in Canada, fruit and vegetable producers and processors often see interprovincial competition as a challenge equal to international competition. These feelings are heightened by perceptions that provincial subsidy and taxation policies are not uniform, that marketing boards and commissions have an unequal influence on the market from province to province and that producers and processors of some products in some provinces have been more successful than others in marketing their products and developing retailer and consumer loyalty.

Canadian producers and processors are generally price-takers from the United States or world markets. Within Canada, competition is generally most active among individual producers and processors located in each region. However, in certain products, producers and processors in one province or region have a significant effect on supply and prices in another.

We heard testimony from Ontario producers, for instance, that Quebec lettuce and celery tended to drive down Ontario prices, while Manitoba potato growers considered their greatest competition came from Alberta. On the other hand, the Quebec and Alberta producers of these products said their own prices were driven mainly by California and the State of Washington.

We found little evidence that unfair practices or provincial government subsidies lay behind such competitive situations. However, it appears that, in the case of apples

and potatoes, some producers have made distress sales in their own province and in others, counting on various kinds of stabilization payments to help them cover their losses. Producers affected by such practices rightly consider this sort of competition to be unfair.

We also gathered during our public hearings a certain amount of anecdotal information on various provincial regulations and enforcement practices which interfere with the free movement of fresh and processed fruits and vegetables within Canada. The most striking example cited was that of small potatoes. Under the *Canada Agricultural Products Act*, potatoes can only be marketed interprovincially and internationally in approved grades and package sizes. The Minister of Agriculture may grant an exemption from any or all of these requirements if it is necessary to alleviate a shortage in Canada. These restrictions have affected the domestic sales prospects of some Maritime producers while providing protection to central and western producers from large U.S. shippers.

Similarly, potato chip processors testified that, in some provinces during the same contract seasons, the marketing boards have invoked these regulations to prevent them from purchasing lower-priced potatoes, not simply outside Canada, but also in other provinces, on the grounds that within-province supplies are adequate. A multiplicity of such barriers would lead to a costly fragmentation of the Canadian market and reduced opportunities for our most efficient producers.

The Tribunal was not able to put together a systematic picture of such barriers and so could not estimate their cost to the industry and the economy or their effect upon competition. While many regulations such as technical and grade standards are designed to protect the consumer and ensure orderly marketing, there appear to be examples of inadvertent and even perverse differences in regulations among the provinces which serve to restrict trade and make everybody less well off. The Federal-Provincial Agricultural Trade Policy Committee is in a good position to identify such barriers and find ways to reduce them.

This being said, our potato example shows how the national treatment principle often turns international barriers to trade into interprovincial ones. The Canadian industry feels a sense of frustration about its U.S. counterpart's lack of interest to reduce border irritants and non-tariff barriers. There is a natural wish that Canada retain some "negotiating coinage" to persuade the United States to agree to a mutual reduction of non-tariff barriers. This argues for caution in dismantling interprovincial-trade barriers which have an international dimension. However, where it can be shown that the advantages of a larger domestic market would outweigh the import pressures, then the argument for retaining a trade restriction is greatly weakened. And where an interprovincial trade barrier has no international dimension whatsoever, it should be dismantled as soon as possible.

(h) Marketing Boards: What is their Role in Competitiveness?

Fruit and vegetable marketing boards and commissions have received a lot of criticism in recent years from processors and from consumers. They are charged with not being sufficiently market responsive and thus increasing costs for their customers. However, most marketing boards and commissions which made submissions to us showed a mature recognition that the prices they negotiate with processors must be competitive if the processors are to survive and if the producers themselves are not to lose their major customers.

We see little in the great number of provincial fruit and vegetable marketing boards and commissions that is inherently "anti-market" and "anti-competitive." It is natural for sellers and buyers to form combinations which aim at increasing capacity to exploit market forces or soften their effect, as the case may be. What matters in terms of international competitiveness is less the formal powers of these bodies and more their behaviour; how much they try to create a difference between Canadian and international prices by controlling domestic supply and imports.

The fruit and vegetable boards and commissions vary greatly in their powers, methods of operation and effectiveness. It is important to note, though, that they are quite different in their effect from the marketing boards of supply-managed products such as dairy and poultry. Some have price-setting powers, but do not use them. None of them has control over domestic supply. However, some of them do exert control during the growing season over imported supplies of fruits and vegetables for processing. Under the Canadian Agricultural Products Act, the Minister of Agriculture is empowered to grant an exemption to the Canadian packaging and/or grade regulations to allow fresh or processed fruits and vegetables to be imported in bulk. Before exercising these powers, the Minister consults with both the grower and processor organizations to determine whether there is a shortage of the product in question. If there is no strong opposition from either group, then an exemption is usually granted.

Even though growers and processors have been working hard to improve their relations and strengthen one another, it is not surprising that producers' indirect control over imports remains contentious. Processors complain that these restrictions do more than raise prices for them; they create uncertainty about their production scheduling and their competitiveness. This in turn leads some of them to question their investment in Canada and whether they will increase their stake in our economy.

Despite, or because of, these concerns, there has been in recent years a growing interest on the part of producers and processors, led by the Ontario tomato industry, to see marketing boards become more flexible. The aim is to ensure that product pricing take into account quality and yield improvements, and differing local conditions. There is also a growing recognition that more can be done by the marketing boards, and equally by local growers' associations under them, to improve extension services, product development and marketing. Provincial governments should find ways to encourage such developments and to foster greater cooperation between producers and processors.

(i) The Challenges of Free Trade, High Interest Rates and a High Dollar

In the mid-1980s, producers and processors were nervous about the move to free trade with the United States and feared they would be losers. They now accept the reality of CUSTA, but some remain fearful of its consequences for them as it becomes fully implemented. They think that so far CUSTA has been mainly a tariff deal and that Canada's higher cost structure has not adjusted downwards as fast as tariffs. Producers regret very much that all tariffs on fresh produce coming from the United States will be eliminated by 1998, through CUSTA. So far, they have found the tariff "snapback" provision to be of little use in helping their adjustment.

Producers and processors complain that little progress has been made on the non-tariff aspects of CUSTA involving harmonizing regulations and reducing barriers in areas such as customs and health inspections, product and packaging standards, pesticides and herbicides. This leaves them uncertain about their access to the U.S. market and reluctant to commit themselves to an export-oriented strategy. It also

leads many to argue that Canadian standards should be kept different from those of the United States, and government enforcement of them tightened as a means of keeping some separation between the two markets. There is also a widespread perception that U.S. enforcement of non-tariff regulations is stricter and more systematic than that in Canada.

In general, it appears that no serious dislocations have occurred from the reductions in tariffs which have been made so far. In some commodities, particularly grapes, significant adjustments have occurred since the advent of free trade, though some of these changes were the result of other developments, such as GATT rulings and shifts in consumer preferences.

Trade statistics for the first two years of CUSTA indicate no significant surge of imports of fresh and processed fruits and vegetables from the United States or any sizeable gains in exports to the United States. However, exports of fresh potatoes increased strongly from 1988 to 1990, though there is no indication of significant changes in the exports of other fruits and vegetables to the United States. This may suggest that tariffs have not come down far enough yet to have altered trade patterns, or perhaps that the seasonal tariffs had less real effects than were supposed. The renewed interest of the fresh industry in using import surtaxes rather than tariff "snapbacks" as a safeguard mechanism may suggest that seasonal tariffs have not always played a decisive role in protecting the industry, especially in situations where import prices fall sharply.

The overall effects of CUSTA may not be known until the tariff reductions have been fully implemented and significant progress has been made on various non-tariff issues. It does indeed appear that little, if any, progress has been made on these matters by the Canada-U.S. Technical Working Groups set up under CUSTA.

In the Tribunal's hearings, producers and processors tended to express more concern about Canada's relatively high interest rates and high exchange rate than about free trade. Canadian interest rates came down significantly in 1991, and the spread between Canadian and American rates has been close to the average historical differential since May 1991. Contrary to most expectations, the Canadian dollar strengthened even more in late 1991, despite the significant drop in Canadian interest rates and the narrowing of interest rate spreads between Canada and the United States.

Despite numerous examples of difficulties cited to us by the industry, the Tribunal could not make overall judgements about how or whether the rate of investment in the industry had diminished during the high interest rate period. Similarly, the Tribunal could not get beyond anecdotal evidence about the effects of the high Canadian dollar and could see no discernable change in our trade statistics during the high-dollar period. In principle, a somewhat over-valued dollar should not translate fully into a loss of international competitiveness. In such a situation, cost increases for import-sensitive inputs such as fuels, machinery and chemicals should be constrained, and lower domestic inflation should feed into lower labour cost increases.

(j) The Frustrating Problem of Pesticides

During the 18 months of our inquiry, we found that the most frustrating issue for the industry by far was that of Canada's policy on pesticides. In its view, this policy results in a smaller selection and higher prices for pesticides in Canada compared to what is available to U.S. growers. As fruit and vegetable tariffs come down, the industry can ill afford such a competitive handicap. The industry considers that Canadian policy on

pesticides has been driven largely by health, safety and industrial development concerns, with little attention paid to the competitiveness of producers.

As this report was going to press in late 1991, the Tribunal became aware that the Government was giving active consideration to proposals from the Minister of Agriculture to implement some of the recommendations made in 1990 by the Pesticide Review Team. While early action on these matters would do much to alleviate the situation, the Tribunal notes the deep-seated nature of the problem and wishes to offer some reasons for seeking more far-reaching solutions.

The pesticide problem is not just a symbolic issue. Our research shows that many of the pesticides available in Canada can cost half again as much as those in the United States. Pesticides can account for up to 10 percent of non-labour inputs.

The question of availability is even more important. The classic illustration of the problem is the lack of availability in Canada of the pesticide Amitraz which controls an insect on pears known as pear *psylla*. Pear production in Canada dropped significantly during the 1980s, as pear *psylla* spread. From the first to the second half of the decade, the domestic producers' market share fell from 45 percent to 33 percent, while consumption went on increasing. The U.S. imports, which largely replaced Canadian supply, had been treated by Amitraz. They were admitted because spot checks at the border showed the produce to be residue-free or within acceptable tolerance levels. Pear growers in Niagara and the Okanagan may be excused for not understanding why pears produced in the State of Washington, with the aid of Amitraz, are judged safe for the Canadian consumer, while pears grown and treated in Canada in the same way would not be acceptable.

There is understandable pride in Canada about the standards we apply to control pesticide use in order to ensure the health and safety of consumers and farmers, and the protection of the environment. Unfortunately, there also is often a lack of understanding on the part of the public of how much properly applied pesticides contribute to our healthy diets by ensuring an abundant and low-cost supply of attractive and disease-free produce. There is also a public perception that our pesticide standards are tighter than those of the United States, though this is not true in all respects.

We found in our public hearings that the horticultural industry is intensely conscious of the health, safety and environmental issues associated with pesticides. This consciousness arises from farmers' natural wish to cut costs, protect those who apply pesticides, safeguard their soil, air and water supplies, and build consumer confidence in their products. The industry, for example, is showing a great interest in emerging techniques of biological control. Such measures, making use of natural predators, coupled with continued but lessened use of highly targeted pesticides, are often referred to as "integrated pest management."

In addition to being protected by producers' own responsible use of pesticides, we have in Canada a very comprehensive residue-testing program for all kinds of food products. The horticultural industry has an almost perfect record in meeting these tests. In 1988-89, Agriculture Canada found a compliance record of 99.8 percent in the Canadian produce it inspected and 99 percent in imported produce. This is a very reassuring record, bearing in mind that tolerances range from 100 to 1000 times the levels judged safe by scientists.

In our cross-border trade, U.S. pesticide inspection standards are tighter than ours, perhaps reflecting our relative import dependence. Canadian producers also testified that U.S. border inspections were much more regular and rigorous than our own. For the relatively few products licensed for use in Canada, but not in the United States, the latter maintains a zero tolerance standard, meaning, effectively, that Canadian producers dare not use the pesticide on crops which they may export. However, in the much more frequent situation where a pesticide is licensed in the United States, but not in Canada, our Canadian standard is set at 0.1 part per million. Given that most produce that has been properly treated with pesticides would carry residues well below that level, there are effectively no impediments to the entry into Canada of produce treated with pesticides not permitted for use in Canada. Canadian producers can neither understand nor accept what amounts to a double standard. They insist, quite reasonably, that if the imported product is safe, so too would be Canadian produce grown with the use of the same insecticide.

In addition to health, safety and environmental concerns, Canadian pesticide policy for the last fifteen years appears to have been driven by industrial development objectives. Until 1977, Canadian farmers could import U.S. products if they were registered for the same application in Canada. The ensuing ban on imports of pesticides was aimed partly at creating our own agricultural chemical industry. This objective has not been achieved. The related requirement of separate registration in Canada simply has led many international chemical companies to avoid the time and expense of registering products for use in our relatively small market.

There is a need to consider whether the Canadian pesticide policy is fully meeting its stated health objectives, despite the strong role played in it by the Department of Health and Welfare. If consumer health is the primary objective, what is the point of allowing into Canada fruits and vegetables grown with the use of chemicals not available here? Why not permit the use in Canada of all chemicals used on fruits and vegetables imported into Canada, provided the domestic produce meets the same strict residue tests as the imported goods? If producers' health, as opposed to consumer health, is the driving concern, then why not address this through operator training, log books and spot checks rather than through the outright ban of certain pesticides?

In short, Canadian basic policy on pesticide regulations, insofar as it affects the horticulture industry, appears to make little sense. There are other ways of meeting the health, safety and environmental objectives of Canada's policy on pesticides which also would respect the objective of making the fruit and vegetable industry more competitive. For this reason, the Tribunal will make, in the next chapter, some suggestions for more fundamental improvements to Canada's policy on pesticides.

CHAPTER II

COMPETITIVENESS PARTNERSHIPS: PROPOSALS FOR ACTION

Improved competitiveness for Canada's fruit and vegetable industry, fresh and processed, will require actions on the part of several players with an interest in the industry. The key participants are the growers and the processors themselves, but the wholesale and retail distribution sector, and the federal and provincial governments have important roles to play as well.

Government policies and programs cannot by themselves assure the success of the industry, but they can do much to remove obstacles to growth and create a climate which promotes competitiveness. Under the existing framework of governmental regulation and support, there are significant differences in performance among producers and processors, even within the same product lines. For example, some tomato producers in South-Western Ontario can match California growers in yield per acre, even though the industry average is well below that of California. This shows that the efforts of producers and processors, individually and collectively, will have the greatest bearing on the success of the industry, though improved government policies will enable a general lifting of standards.

In considering the various factors which affect the competitiveness of the industry, it is important to distinguish, as the old prayer goes, between those things that can be changed and those that cannot, and to have the wisdom to know the difference. Accordingly, the Tribunal cannot offer any easy advice or quick remedy for various aspects of the industry's environment on which we heard much comment during public hearings. There is not much the industry can do or the Tribunal can influence concerning the level of interest rates and of interest rate spreads between Canada and the United States, about the value of the dollar, creeping urbanization or our cold climate.

Other things will be difficult, but perhaps not impossible to change. This could include such things as the terms of the forthcoming NAFTA, improvements in CUSTA, changes in relations among producers, processors and distributors, or the government funding for research, marketing and income stabilization. The trick is to see how far some of these factors and policies can be influenced and changed, and how the industry can better adapt to and exploit its policy environment and resource endowments.

The following are some of the measures and policies which the various players should consider as ways of improving the competitiveness of the fresh and processed fruit and vegetable industry in Canada. We discuss, in turn, issues involving the federal government, provincial governments, producers, processors and distributors. In treating the governmental issues, we sometimes offer advice to producers and processors on how they should react to the governmental environment, while, at other times, we suggest to governments areas for improvement.

1. Federal Government

Macro policies, i.e., interest rates and exchange rates

- During 1991, Canadian interest rates came down significantly. Prime interest rate spreads between Canada and the United States (for the

relevant reference rates for farm lending, see Chapter 8 (2)g) also returned to more traditional ranges. However, the dollar temporarily rose to the highest levels in more than a decade. The Government says it has little control, at least in the short run, over the relative levels of interest rates in Canada compared to those in the United States, and still less influence over the external value of the Canadian dollar.

- We assume that the Government, even if it wished to do so, would not have the financial means to shield the fruit and vegetable industry or any other sector of the economy from unexpected and undesired movements in interest rates and in the Canadian dollar.

- The industry may have little choice, therefore, but to plan on the assumption that Canadian interest rates will remain higher than those of the United States and that the Canadian dollar may stay quite high. If these assumptions hold true and the industry makes the necessary adjustments, it will benefit from lower inflation, and it will strengthen its capacity to compete, whether or not business conditions improve significantly.

- The CHC and the FIC might consider engaging or developing business forecasting and market information services for their members. This could help especially the smaller players to make better decisions on the timing of investments and on the purchases of inputs and sale of storable products.

CUSTA

- CUSTA is a reality, but the industry complains that, so far, CUSTA has been largely a tariff deal. The Government and industry should get on with implementing the agreement fully.

- Chapter 7 of CUSTA established several joint Canada-U.S. working groups on technical standards of concern to the horticultural industry in areas such as plant health, seeds and fertilizers, fruit and vegetable inspection, food and beverage additives, pesticides and packaging. The purpose of these groups is to work towards an "open border" by eliminating " ... technical regulations and government standards that would constitute an arbitrary, unjustifiable or disguised restriction on bilateral trade." Very little appears to have been accomplished so far by these working groups.

- There are dangers in "unilateral disarmament;" the process of dismantling non-tariff barriers has to be mutual and cautious. Progress in the Chapter 7 working groups will take place if the Canadian and U.S. industries agree on practical objectives for incremental improvements. Producers and processors on both sides of the border should form alliances, perhaps on a product-by-product basis, to identify non-tariff obstacles to free movement of their goods, whether in the area of standards or enforcement. Once they arrive at a common understanding of the facts, they can then propose negotiating objectives for their governments.

- A timetable for the Chapter 7 working groups in reaching agreement on the desired reductions in barriers should be set by industries and governments on both sides of the border. The ongoing NAFTA negotiations should be used to make progress on these issues rather than to defer action on them.

NAFTA

- During the autumn of 1991, producers and processors were beginning to clarify their objectives for NAFTA. To help guide our negotiators, the industry must, as soon as possible, state clearly what it wants and doesn't want in NAFTA. It will be equally important for the industry to keep in touch with developments as the negotiations proceed, so that it can take advantage of, and not be the victim of, eventual trade-offs.

- It seems obvious that our industry would, at a minimum, seek the same sort of safeguards as were obtained in CUSTA, i.e., a 10-year phase out of tariffs and a 20-year tariff "snapback" provision. If the United States sought the maintenance of its own seasonal tariffs on Mexican produce, it would only be fair for Canada to re-open that matter with the United States. However, our current impression is that the U.S. industry is reconciled to losing its seasonal tariffs if NAFTA goes ahead.

- In our final hearings, the CHC noted that Canada's existing, but seldom used, fruit and vegetable surtax mechanism would provide far better protection in drastically falling markets than the CUSTA tariff snapbacks. The industry should sound out its U.S. and Mexican counterparts on whether such a surtax mechanism could be adopted by the three countries, to be used as part of their import safeguards against one another in extraordinary circumstances, such as a virtual collapse in the price of a product.

- Producers and processors should consider whether they have common cause with their U.S. counterparts on the non-tariff aspects of NAFTA. They should also consider whether NAFTA might offer both of them an opportunity to improve on the non-tariff provisions of CUSTA.

Research and Development

- Resources for both applied and basic research will continue to be limited. In this situation, producers and processors should do more to identify their priorities, recognizing that this may create a bias in favour of applied research and extension services.

- Agriculture Canada and the U.S. Department of Agriculture (USDA) should work to better coordinate basic research projects and to ensure that their results are effectively disseminated to extension services, federal, provincial and state.

- A national check-off system could raise funds to be directed to product promotion, market research and other priorities identified by the industry. The industry would make use of these funds to augment, not replace, services now provided by governments.

Export Promotion

- Producers, processors and governments, in their joint programs, should concentrate on maximizing their access to the U.S. market. With some notable exceptions, marketing efforts outside North America have tended to be costly, one-shot efforts. It may be wise to weigh the glamour of entering exotic and distant markets against the costs, bearing in mind the proximity of the U.S. market and improved access to it under CUSTA.

Trade Barriers within Canada

- Producers, processors and governments should establish an agreed and documented inventory of provincial regulations and enforcement practices which interfere with the free movement of fresh and processed fruits and vegetables within Canada.

- The Federal-Provincial Agricultural Trade Policy Committee is in a good position to identify such interprovincial barriers to trade and find ways to reduce them. It should take advantage of the current interest in strengthening the Canadian economic union and intensify its own efforts in this area.

Pesticides

- The Government should, before the 1992 growing season, proceed with the implementation of the 1990 recommendations of the Pesticide Registration Review Team, particularly in the areas of speeding up the pesticide registration process and facilitating the registration of pesticides for "minor use."

- As well, the Government should begin preparing more fundamental reforms to Canadian pesticide policy. We urge the Government to act along the following lines:

    1. In the short run, approve for use in Canada any pesticide used in the United States, provided that rigorous testing of domestic produce treated with it meets the same residue tests which are applied to imported produce similarly treated.

    2. In the medium term, negotiate an agreement with the United States on mutual recognition of one another's testing and registration systems. Under this approach, any pesticide approved for use in the United States would be approved for use in Canada, and vice versa, provided it had been tested in areas where soil and growing conditions were similar in the two countries.

3. Under both of the above options, provide for the immediate duty-free entry from the United States, by both commercial importers and individual users, of any pesticide product registered for use in Canada.

4. Only where action is taken on points (1) or (2) above, require Canadian producers to follow the practice recently adopted in California where each grower keeps a log of every application of pesticides, available for inspection by state officials at any time. Such a regulation would help ensure operator safety, consumer health and environmental protection by guarding against the improper application of pesticides. It also would help scientists monitor pesticide use in order to judge, over time, the effectiveness of a product.

Increasing the supply of labour

- There is an urgent need to increase the supply of horticultural workers, particularly at peak times. Government commissions, industry representatives, and social leaders have suggested repeatedly that social-welfare systems should be made more flexible so that people can take temporary agricultural jobs without losing all their benefits. Quebec has had some success with a program along these lines. Its welfare regulations allow some recipients to continue to receive their benefits during the first month of employment. Some provinces have experimented with programs to encourage native persons to get involved in the horticultural industry. The federal Government should work with the provinces on measures which would ease the supply of casual labour.

A Canada-wide check-off system

- The idea of a check-off system involving a small levy on the sale of all domestic and imported fresh fruits and vegetables has been around for some time. Check-off systems are normally used to fund product promotion and research. We understand that the Minister of Agriculture Canada is considering a plan. Its time has come. The United States is moving in this direction and already has applied national check-offs to several agricultural commodities. Both Canada and the United States apply check-offs in the beef industry. While check-offs must be non-discriminatory and apply equally to domestic production and to imports, they are particularly attractive to industries such as horticulture where imports loom large.

- A check-off system would give the Canadian fruit and vegetable industry additional resources to join with governments in shared programs of product promotion and research. The CHC would have to develop principles for the fair distribution of the proceeds regionally and by product.

Better market information

- One of the strongest tools of improved competitiveness is better and more timely statistics and market information. Our impression is that Canada

is behind the United States in this area. The industry associations should make greater efforts to disseminate to their members accurate and timely information on supply, prices, and market conditions and outlook. This is an activity which could be supported with national check-off funds.

- More resources for Agriculture Canada to expand its information gathering and analysis in this area also would be a valuable way of supporting the industry, without subsidizing it. The Department should expand its current market information services to parallel more closely those provided by USDA. Moreover, to reduce costs, Agriculture Canada should explore the feasibility of a combined Canada-U.S. approach to gathering and disseminating market information.

2. Provincial Governments

Because of shared federal-provincial responsibility for agriculture, a number of the points made above about the role of the federal government apply equally well to the provinces. The issues discussed below apply mainly to the provinces, though the question of migrant labour involves the federal Government as well.

Marketing Board Legislation and Regulations

- We noted throughout the inquiry a common interest on the part of producers and processors to achieve greater flexibility in their negotiations so that product pricing takes into account quality and yield improvements, and differing local conditions. There is also a growing recognition that more can be done by the marketing boards, processors and local grower associations to improve extension services, product development and marketing. Provincial legislation and regulations should be constantly adapted in consultation with growers, processors and consumer groups so that they facilitate these developments.

- A constant concern of producers is their risk of loss between the time a processor or other buyer takes possession of a crop and the time it pays the producer. If the processor or buyer goes into receivership during this interval, the producer becomes an unsecured creditor and faces the possible loss of all his originally expected receipts. To protect producers from such losses, several provinces have regulations requiring would-be processors to undergo exceedingly rigorous creditworthiness tests before they can be licensed. Such policies have the unwelcome effect of making it difficult for small firms and producer cooperatives to get into the business of processing. A more straightforward approach to protecting growers would be to adopt the practice in the United States where the *Perishable Agricultural Commodities Act* makes growers preferred creditors in the event that processors or other buyers of their produce go into receivership. Amendments to the *Bank Act* and the *Bankruptcy Act* would accomplish the same purpose in Canada.

Land Use Restrictions

- Land use restrictions can affect the economic viability of the sector they purport to protect by interfering with the normal market forces governing entry to, exit from, and rationalization of the industry. From a social

standpoint, land use restrictions can seriously affect the sale price of a farm and therefore the retirement income of the farmer.

- The Tribunal was impressed with the reasonableness of those landowners who stated that they should either be allowed to sell their land in an unrestricted way or, if prevented from doing so, be compensated in some manner.

- The Tribunal thinks the preferable course would be to remove the bulk of the restrictions and let the free market decide the best uses of these lands now and in the future. This was the direction being taken by the Niagara Regional Council in an October, 1991, decision. We are troubled by reports that the Ontario Ministries of Municipal Affairs and of Agriculture and Food announced their opposition to this measure.

- If the restrictions are maintained in the Niagara and Lower Mainland regions, then Ontario and British Columbia should consider buying the land from the farmers at market prices and leasing it back to them at rates that reflect its current agricultural production value.

Migrant Workers

- The migrant worker program carried out between the federal Government and several provinces seems to be working well. However, Quebec producers told us that the province was comparatively restrictive in the number of migrant labourers it allowed in each year. In Ontario, we heard many concerns about the high cost of migrant labour and suggestions that the high effective premium over the minimum wage which these workers receive could be reduced if they could be charged something for their travel to Canada and their lodging. Manitoba growers also expressed concern about the style of administration of the program in that province.

- It is a matter of pride to Canadians that migrant workers are treated very well here, but modest concessions to competitiveness could be made without jeopardizing social justice or the supply of visiting workers. We also heard suggestions that Canada should permit access to contract groups of migrant workers, provided they received at least the minimum wage. We support the various suggestions made by the industry for improvements in this area.

3. Producers

Product Quality and Marketing

- Producers can learn from one another's successes in this area. Good examples are the B.C. Greenhouse Growers, certain Quebec celery, lettuce and carrot grower groups and a number of other vegetable and fruit-growing cooperatives, marketing boards and private companies which have coordinated product development and quality, brand identification and marketing, and processing and packaging. In some cases, they have hired experts in marketing, applied research and extension services. Local grower groups of this sort, when they organize, can develop a product

quality and marketing focus that may not be possible at the provincial or regional level.

Partnerships with Processors and Distributors

- The Ontario tomato industry is an example of how greater cooperation between growers and processors can benefit both sides. Growers and processors have recently developed a number of contract options which price tomatoes according to various quality and yield criteria, to the mutual benefit of both parties. Most contracts between processors and growers have agreements on seeds, fertilizers, pesticides and other services. These arrangements have resulted for some growers in significant quality improvements and yields per acre which compare favourably with those of California.

- Producers and shippers of perishable products, if they wish to make greater inroads into the grocery chains, will have to consider more pre-commitment of deliveries and participation with retailers in advertising and marketing programs. They must also find ways to band together in marketing and sales organizations so that their bargaining power is increased.

Consumer Education

- Grower and other industry associations should give continuing emphasis to consumer awareness campaigns, such as those conducted by the Fresh for Flavour Foundation. A recent high-impact campaign in Ontario was TV ads run by various fruit and vegetable producers' associations in conjunction with Foodland Ontario. The message promoted the quality and freshness of the Ontario products compared to imported products.

- The industry should continue to develop messages that will help to explain to consumers the benefits to them in terms of product quality, safety, price and abundance which are the result of modern production techniques including the judicious use of commercial fertilizers, licensed pesticides and mechanical harvesting. This would help correct some of the misconceptions and fears which have triggered such an interest in "organically" produced fruits and vegetables.

Better Market Information

- This involves not just better government statistics, but up-to-date daily and even hourly information on prices and supplies, locally, nationally and internationally. Information of this sort can be picked up at large markets such as the Ontario Food Terminal, although those who are not physically present are at a disadvantage. In California, a number of grower/broker firms make markets in various products and carry out trading electronically. They make available to their clients and shareholders a lot of detailed market information. There may be room now in Canada for certain grower groups to move in this direction.

Growers' Organizations

- The Tribunal has come to appreciate how natural it is that the industry should be organized in a very large number of rather specific commodity groups. We have seen, as well, that their elected leaders and hired personnel make up a very impressive community of expertise. We also think that this body of people, somewhat differently combined and coordinated, could probably do an even better job of serving industry needs. As a simple example, when one employee in a particular producer's group is an expert in the tax field or the GATT rules or the pesticide issue, some way should be found to share that person's expertise on a broader basis.

- Most industry leaders need to spend as much time lobbying governments on regulatory matters as they do on industry development. Most are short of resources and are unable to hire marketing and extension specialists; they get by with an over-worked secretary/manager. At the federal level, the CHC is so thinly stretched that it spends a lot of its time "fire-fighting," at the expense of planning and organizing. CHC members should strengthen their institution, particularly if it is to take advantage of the funds which should become available through a national check-off system. At the other end, an effort should be made to consolidate provincial and regional growers' groups for particular products so that they have adequate resources to devote to product improvement, marketing and information sharing.

4. Processors

More Outward Looking

- It was clear from processors' testimony that more and more of them realize it will not be safe for them to rely simply on their regional markets or the Canadian market as a whole. To protect their base in Canada they must also become export competitive. Several of the multinationals have started to rationalize production lines on a North American basis. This has involved increasing economies of scale.

- However, processors feel inhibited about putting all their eggs in the export basket, given their uncertainty of access to the U.S. market because of continuing non-tariff barriers. These uncertainties cause them to rely for protection in our own market on our own web of regulations, for example, on container sizes. It is clear that each firm, and the industry as a whole, must have both defensive and offensive strategies. It is also clear that moves to dismantle obstacles to trade must be reciprocal if they are to be successful.

- In the autumn of 1991, the FIC was working with its members to sort out their individual and collective goals on market access and market expansion. We welcome this initiative by the processors and also urge them to strengthen their dialogue with their U.S. counterparts, aiming at further reductions of trade barriers affecting their sector.

More Investment in Plant and Equipment

- In products such as frozen french fries, tomato paste, peas, beans and corn, Canadian processors have attained in recent years, or are reaching now, cost competitiveness with the United States. This has been the result of significant investments which have lowered unit labour costs and improved quality and packaging. More efforts of this sort are needed throughout the industry, aimed, for example, at having the canning sector catch up with the progress made on the frozen side.

More Cooperation with Growers and Distributors

- The most successful processors have built cooperative relationships with growers and distributors aimed at providing high quality, assured delivery and reasonable returns to each partner in the chain. Competitive raw product costs are important, but are not sufficient by themselves to assure the success of the industry from farm-gate to supermarket freezer. Partnerships on product development, quality, packaging, branding, advertising and delivery will benefit all the players. These partnerships, to be meaningful, must be formed at the local level.

Industry Organization and Information Sharing

- The FIC, like its counterpart, the CHC, is thinly stretched. Additional resources would enable the FIC to help its member firms form their individual and collective goals. At the present time, it appears to be more responsive to the major firms in the industry and cannot devote itself adequately to the needs of the small players.

- Because of inter-firm competition and the need to keep marketing plans secret, there appears to be considerable duplication of effort among the larger firms in the collection and dissemination of basic market information. Giving the FIC the resources and mandate to improve the industry's stock of market information would be more cost effective for the major firms and, at the same time, greatly benefit the smaller players.

5. Distributors

Partnerships with Growers and Processors

- Retailers more and more are giving prominence to their produce sections in response to health-conscious consumers' demands for fresh, high-quality fruits and vegetables. They have a common interest with growers and processors in appealing to this growing number of consumers and in encouraging them to give a preference to freshness and locally prepared and processed fruits and vegetables. In Quebec, the grocery chains work closely with provincial growers and processors to cultivate and respond to consumer loyalty to Quebec-made products. The other important horticultural provinces should try to follow the Quebec example. Task forces involving retailers, growers, processors and the provincial governments might be able to work out action plans which would allow the local industries to serve the consumer better.

CHAPTER III

FRESH FRUIT AND VEGETABLE INDUSTRY OVERVIEW

Chapter Highlights

- During the 1980s, the value of fresh fruit and vegetable production and consumption in Canada rose at a faster rate than in the United States.
- The total farm value of vegetable crops in 1989 was $1.1 billion with potatoes, mushrooms and tomatoes representing two-thirds of total farm value.
- Fruit production had a farm value of $0.3 billion in 1989, with apples, strawberries, blueberries and raspberries accounting for roughly 70 percent of farm value.
- Almost one-half of the 14,545 farms growing vegetables in Canada in 1986 used 7 acres or less for vegetable production. Further, 23 percent of all vegetable farms accounted for 83 percent of annual vegetable sales in 1985.
- There were 15,191 farms producing fruit in Canada in 1986 and, on average, these farms used 14 acres for growing fruit.
- Ten percent of the farms producing tree fruits were responsible for 58 percent of the sales of tree fruits in 1985 and 6 percent of farms producing berries and grapes accounted for 52 percent of the sales of berries and grapes.

In general, the data in this report and in the supporting studies are reported in current Canadian dollars or actual tonnes of production. There is no single price deflator that is appropriate to convert current dollar estimates to constant dollar estimates.

While there is no specific deflator appropriate for use in the analysis of fruit and vegetable production, the Gross Domestic Product (GDP) Implicit Price Deflator and the Consumer Price Index are provided for the use of the reader:

Price Indexes (1989=100)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GDP Implicit Price Deflator	64	70	77	80	83	85	87	91	95	100
Consumer Price Index	59	66	73	78	81	84	88	92	95	100

1. Introduction

The Tribunal's terms of reference directed it, in part, "to develop a representative profile of the domestic industry on a regional and national basis, including conditions and trends respecting the structure of the industry, production, consumption, marketing and trade patterns." This chapter of the report addresses this request by providing a

statistical profile of the fresh fruit and vegetable industry, while Chapter IV covers the processed fruit and vegetable industry.

This chapter focuses on the fresh fruit and vegetable sector over the 1980s. It identifies trends in production, imports, exports, consumption and market shares. It also presents a brief profile on farm operations and places the Canadian industry in perspective with its U.S. counterpart.

Although there are over 50 fruits and vegetables grown in Canada, Statistics Canada publishes annual production and farm value data for only 22 vegetable and 10 fruit crops. These 32 products include all of the major crops grown in Canada. A listing of the 32 crops profiled in this report, as well as of the farm values for the crops for 1980 and 1989, is found in Table 3.1.

Table 3.1

THIRTY-TWO VEGETABLE AND FRUIT CROPS

FARM VALUE[1]
($ million)

	1980	1989	Compound Annual Growth Rate 1980-89 (%)
Vegetables			
Potatoes	356.5	452.0	2.7
Mushrooms	66.3	159.0	10.2
Tomatoes*	69.9	141.0	8.1
Corn	28.2	66.1	9.9
Cucumbers*	25.2	52.5	8.5
Carrots	32.9	44.4	3.4
Cabbage	19.6	33.8	6.2
Onions	23.2	31.0	3.3
Green Peas**	19.3	28.1	4.3
Lettuce	11.9	25.4	8.8
Cauliflower	17.0	20.5	2.1
Beans	11.9	17.5	4.4
Rutabagas	16.9	15.5	(1.0)
Celery	6.1	13.2	9.0
Peppers***	4.8	10.8	12.3
Asparagus	4.5	7.5	5.8
Beets	2.7	4.8	6.6
Radishes***	1.9	3.4	8.7
Brussels Sprouts**	1.4	2.6	7.1
Broccoli**	1.0	2.2	9.2
Spinach	1.4	2.0	4.0
Parsnips	1.4	1.5	0.8
Total	724.0	1,134.8	5.1

	1980	1989	Compound Annual Growth Rate 1980-89 (%)
Fruits			
Apples	85.0	107.9	2.7
Strawberries	30.7	49.2	5.4
Blueberries	14.7	36.0	10.5
Raspberries	10.1	32.2	13.7
Grapes	27.9	29.9	0.8
Peaches	17.2	26.8	5.1
Cranberries	4.6	15.5	14.5
Cherries	11.6	10.9	(0.7)
Pears	11.2	9.2	(2.2)
Plums and Prunes	3.7	2.6	(3.8)
Total	216.7	320.2	4.4

* Includes greenhouse.
** Processing crop only.
*** 1982

1. Figures on volume of production for 1980 and 1989 are presented in Appendix F.

Source: Statistics Canada CANSIM farm value data.

2. Vegetable Crops

This section presents the highlights of the individual vegetable crop profiles. The largest crops are discussed on an individual basis, while the other crops are grouped according to common attributes and then discussed collectively.

Potatoes are by far the most important vegetable crop grown in Canada with a farm value of $452 million for the year 1989 (40 percent of the total for vegetables), the highest in the last decade. On average, about 50 percent of the volume of production occurred in Atlantic Canada (mostly New Brunswick and Prince Edward Island) although there are significant volumes of production in all regions.

Production and consumption have been on a slightly upward trend during the 1980s (Table 3.2). Canada is a net exporter of potatoes and its potato trade surplus grew over the decade. Exports of potatoes rose from 15 percent to 18 percent of production, while imports increased from 6 percent to 7 percent of output. Exports of fresh and seed potatoes are of particular importance to New Brunswick and Prince Edward Island. Exports of processed potatoes, mainly frozen french fries, have also grown substantially since the mid-1980s. Important volumes of potato chips are also produced in most regions.

On a national scale, domestic producers have maintained about 90 percent of the total market and 95 percent, or more, of the processed market since 1980.[1]

Table 3.2

POTATOES
(000 t)

	Annual Averages 1980-84	Annual Averages 1985-88	% Change
Production	2,643	2,891	9
Imports	164	212	29
Imports as % of Production	6	7	
Exports	387	534	38
Exports as % of Production	15	18	
Domestic Consumption	2,420	2,570	6
Production as % of Consumption	109	112	
Domestic Producers' Market Share (%)	93	92	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

1. Since the compilation of the figures presented in this section, Tribunal staff has updated the supply and disposition tables for 12 key fruits and vegetables for the year 1989. The results show that the market shares for 11 of the commodities for the period 1985-89 are equal to or within 1 percentage point of the market shares for the period 1985-88. The one exception was the market share for blueberries which increased by 3 percentage points. The 12 supply and disposition tables are presented in Appendix G, along with the original version of the supply and disposition table for mushrooms which included results for 1989.

Mushrooms are the second most important vegetable crop grown in Canada, having a farm value of $159 million in 1989 (14 percent of the total for vegetables). The high ranking depends on the higher unit prices received for mushrooms compared to other vegetable crops, as mushrooms are only eleventh in importance in terms of tonnage. Production is concentrated in Ontario and British Columbia.

Domestic production increased dramatically over the decade and consumption increased by a similar amount and at one of the highest rates of any vegetable (Table 3.3). Imports declined from 100 percent to 71 percent of production while exports grew from less than 1 percent to 2 percent of production. Imports consisted mainly of processed (canned) mushrooms, although fresh imports showed some growth in the latter half of the decade. Exports of fresh mushrooms were mainly from British Columbia and were destined for the United States and Japan.

Domestic growers increased their share of the domestic market 7 percentage points to an average of 57 percent in the last half of the decade. The producers' share of the processed market increased from 24 percent to 28 percent, but their share of the fresh market declined 3 percentage points to 90 percent.

Table 3.3

MUSHROOMS
(000 t)

	Annual Averages		%
	1980-84	1985-88	Change
Production	35	49	40
Imports	35	35	0
Imports as % of Production	100	71	
Exports	...	1	
Exports as % of Production		2	
Domestic Consumption	70	83	19
Production as % of Consumption	50	59	
Domestic Producers' Market Share (%)	50	57	

... Less than 500 tonnes.
Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Tomatoes are the third most important vegetable crop grown in Canada with a farm value of $141 million in 1989 (12 percent of the total for vegetables). Domestic production includes field-grown tomatoes for both the fresh and processed markets, and greenhouse tomatoes for the fresh market. In recent years, processing production has accounted for 86 percent of total output, and the fresh field market crop and greenhouse

production have accounted for 10 percent and 4 percent of output, respectively. Fresh production occurs in all regions, while processed production is mostly located in Southwestern Ontario and greenhouse production is concentrated in Ontario and British Columbia.

Tomato production increased moderately while consumption was stable over the last decade (Table 3.4). Imports decreased from 76 percent to 63 percent of output, while exports increased from 1 percent to 2 percent of output. Imports and exports consisted mainly of processed tomatoes, although the volume of fresh tomato imports was significant. Fresh exports were primarily from British Columbia and Ontario and were shipped to neighbouring American states.

Canadian growers expanded their share of the tomato market from 57 percent to 61 percent during the period 1985-88. This was the result of the growers increasing their share of the processed market by 3 percentage points to 68 percent, as well as their share of the fresh market by 5 percentage points to 36 percent.

Table 3.4

TOMATOES
(000 t)

	Annual Averages		%
	1980-84	1985-88	Change
Production	513	573	12
Imports	389	363	(7)
Imports as % of Production	76	63	
Exports	4	11	175
Exports as % of Production	1	2	
Domestic Consumption	897	925	3
Production as % of Consumption	57	62	
Domestic Producers' Market Share (%)	57	61	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Cucumbers, with a farm value of $53 million in 1989, are grown in the field and in greenhouses. In recent years, almost 70 percent of the volume of production (41 percent of the farm value of production) has been field grown and a significant proportion of the field crop has gone to pickle processing. Greenhouse production is sold entirely on the fresh market. Field production is centered in Ontario and Quebec, while greenhouse production is concentrated in Ontario.

Domestic production increased slightly because greenhouse production expanded more than field production diminished (Table 3.5). Consumption increased moderately. Imports climbed from 50 percent to 58 percent of production, while exports went from 3 percent to 4 percent of production. Imports and exports consisted mainly of fresh cucumbers. Fresh exports originated mainly in Ontario and British Columbia.

Domestic producers' overall market share declined from 66 percent to 62 percent. This drop reflects a decline of 5 percentage points in their share of the processed market to 88 percent, partially offset by an increase of 2 percentage points in their share of the fresh market to 47 percent.

Table 3.5

CUCUMBERS
(000 t)

	Annual Averages		%
	1980-84	1985-88	Change
Production	76	83	9
Imports	38	48	26
Imports as % of Production	50	58	
Exports	2	3	50
Exports as % of Production	3	4	
Domestic Consumption	112	128	14
Production as % of Consumption	68	65	
Domestic Producers' Market Share (%)	66	62	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Processing crops normally include corn, green peas and beans that had a collective farm value of $112 million in 1989. Processed production ranges between 75 percent and 100 percent of the harvest for these crops. Eighty percent or more of corn and bean production occurs in Ontario and Quebec, while green pea production is more widely dispersed, with 60 percent occurring in Ontario and Quebec.

Domestic production and consumption both declined for green peas and beans, but increased slightly for corn (Table 3.6). Imports and exports of green peas and beans all grew relative to production, while imports of corn remained stable and exports of corn declined as a percentage of output. Bean and corn imports were heavily weighted towards fresh produce while green pea imports were entirely in processed form. Processed products dominated exports, with only beans reporting any fresh exports.

Domestic growers held the dominant market share for all three crops over the decade. The corn growers' market share remained constant at 89 percent while the green pea producers' share declined 3 percentage points to 93 percent and the bean growers' share dropped 5 percentage points to 75 percent.

Table 3.6

PROCESSING CROPS
(000 t)

	Corn			Green Peas		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	296	311	5	66	57	(14)
Imports	29	31	7	3	4	33
Imports as % of Production	10	10		5	7	
Exports	62	55	(11)	7	7	0
Exports as % of Production	21	18		11	12	
Domestic Consumption	263	287	9	61	54	(11)
Production as % of Consumption	113	108		108	106	
Domestic Producers' Market Share (%)	89	89		96	93	

	Beans		
	Annual Averages		%
	1980-84	1985-88	Change
Production	48	45	(6)
Imports	11	13	18
Imports as % of Production	23	29	
Exports	3	5	67
Exports as % of Production	6	11	
Domestic Consumption	56	53	(5)
Production as % of Consumption	86	85	
Domestic Producers' Market Share (%)	80	75	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Root crops consisting of carrots, rutabagas, beets, radishes and parsnips varied in farm value from a high of $44 million for carrots to a low of $1.5 million for parsnips in 1989. These crops are grown in all regions of Canada, but production is heavily concentrated in Ontario and Quebec. Over one-half of the beet crop and about one-fifth of the carrot harvest go to processing. Processing is not a significant factor for the other three root crops.

Over the decade, radish production enjoyed strong growth, carrot production expanded marginally, parsnip production remained stable, and the rutabaga and beet crops declined in volume (Table 3.7). Consumption followed a somewhat similar pattern. Imports, as a percentage of production, declined for radishes, remained constant for rutabagas and parsnips and grew for carrots and beets. Exports of carrots and rutabagas declined relative to production due to a significant drop in the exports of both crops in the crop year 1988. Carrot exports dropped as a result of drought conditions in

Central Canada and an oversupply of carrots in U.S. markets. Rutabaga exports fell because a virus affected crop storability and demand declined. Exports of beets, radishes and parsnips all averaged less than 500 tonnes over the decade.

Canadian producers' market shares declined from 78 percent to 74 percent for carrots, from 98 percent to 97 percent for rutabagas and from 92 percent to 89 percent for beets. However, the growers' shares increased from 25 percent to 30 percent for radishes and from 74 percent to 79 percent for parsnips.

Table 3.7

ROOT CROPS
(000 t)

	Carrots			Rutabagas		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	250	258	3	102	82	(20)
Imports	58	74	28	2	2	0
Imports as % of Production	23	29		2	2	
Exports	50	49	(2)	31	19	(39)
Exports as % of Production	20	19		31	23	
Domestic Consumption	258	283	10	72	65	(10)
Production as % of Consumption	97	91		142	126	
Domestic Producers' Market Share (%)	78	74		98	97	

	Beets			Radishes		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1982-84	1985-88	Change
Production	20	16	(20)	4	5	25
Imports	2	2	0	11	11	0
Imports as % of Production	10	13		275	220	
Exports	...	...		...	...	
Exports as % of Production						
Domestic Consumption	21	18	(14)	14	15	7
Production as % of Consumption	95	89		29	33	
Domestic Producers' Market Share (%)	92	89		25	30	

	Parsnips		
	Annual Averages		%
	1980-84	1985-88	Change
Production	3	3	0
Imports	1	1	0
Imports as % of Production	33	33	
Exports	...	...	
Exports as % of Production			
Domestic Consumption	4	4	0
Production as % of Consumption	75	75	
Domestic Producers' Market Share (%)	74	79	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Cole crops include cabbage, cauliflower, Brussels sprouts and broccoli. Cabbage and cauliflower had farm values of $34 million and $21 million, respectively, in 1989, while Brussels sprouts and broccoli had farm values of $2.6 million and $2.2 million, respectively. The figures for cabbage and cauliflower cover both fresh and processing production, but the figures for broccoli and Brussels sprouts cover only processing production, as complete data on farm values for the fresh market are not available. Most of the Brussels sprout crop goes to processing and most of the broccoli crop goes to the fresh market. Over the last decade, the volume of broccoli sold on the fresh market has grown to the point that the value of fresh production, in recent years, has been estimated to be in excess of $12 million. Around 6 percent of the cabbage crop and 12 percent of the cauliflower crop are processed.

Cabbage and cauliflower production are concentrated in Central Canada, with more cabbage grown in Quebec than Ontario and more cauliflower grown in Ontario than Quebec. Broccoli production is centered in Ontario, Quebec and British Columbia, but significant increases in production have occurred in the Maritimes, Manitoba and Alberta. Regional statistics are not available for Brussels sprouts.

The volume of broccoli production and consumption (both fresh and processed) grew dramatically over the decade, primarily due to growth in the fresh market (Table 3.8). Brussels sprout production increased significantly, while consumption rose moderately. Cabbage production and consumption both declined, and cauliflower production decreased, while consumption increased markedly. Imports of cabbage, Brussels sprouts and broccoli declined relatively to production, while imports of cauliflower increased as a percentage of output. Exports of cabbage increased as a proportion of production, while exports of cauliflower decreased relatively to output. Exports of Brussels sprouts and broccoli averaged 1,000 tonnes or less over the decade.

Domestic producers increased their market shares by 1 percentage point to 81 percent for cabbage, by 2 percentage points to 26 percent for broccoli and by 3 percentage points to 41 percent for Brussels sprouts. The growers' share of the cauliflower market declined 14 percentage points to 49 percent.

Table 3.8

COLE CROPS
(000 t)

	Cabbage			Cauliflower		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	140	135	(4)	46	45	(2)
Imports	34	30	(12)	24	43	79
Imports as % of Production	24	22		52	96	
Exports	6	10	67	5	4	(20)
Exports as % of Production	4	7		11	9	
Domestic Consumption	168	156	(7)	66	85	29
Production as % of Consumption	83	87		70	53	
Domestic Producers' Market Share (%)	80	81		63	49	

	Brussels Sprouts			Broccoli		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	3	4	33	13	21	62
Imports	4	4	0	41	58	41
Imports as % of Production	133	100		315	276	
Exports	...	1		...	...	
Exports as % of Production		25				
Domestic Consumption	7	8	14	54	79	46
Production as % of Consumption	43	50		24	27	
Domestic Producers' Market Share (%)	38	41		24	26	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

Salad crops include lettuce, celery and peppers. Other crops, such as tomatoes and cucumbers, are also considered to be salad crops, but are discussed separately. The farm value of the three crops varied from a high of $25 million for lettuce to a low of $11 million for peppers. The field production of these crops occurs mostly in Central Canada, although substantial volumes of lettuce and celery are also grown in British Columbia. Quebec is the most important growing region for lettuce, while Ontario is the most important producing area for the other two crops. Imported lettuce is processed in Canada, but lettuce grown domestically is not. Data on lettuce processing are not available. About 5 percent of Ontario's celery crop and 29 percent of the province's pepper crop are processed.

Pepper production and consumption grew dramatically over the decade (Table 3.9). Lettuce production grew moderately, while the production of celery and the consumption of lettuce and celery expanded slightly. Imports of lettuce and peppers decreased relatively to output, while imports of celery grew as a proportion of production. All three crops are imported only in the fresh state. Exports of lettuce and celery declined as a percentage of production, while the exports of peppers averaged 1,000 tonnes over the last half of the decade.

The market shares of Canadian producers increased 2 percentage points to 18 percent for lettuce, decreased 1 percentage point to 27 percent for celery and grew 4 percentage points to 31 percent for peppers.

Table 3.9

SALAD CROPS
(000 t)

	Lettuce			Celery		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	44	50	14	35	36	3
Imports	206	209	1	81	87	7
Imports as % of Production	468	418		231	242	
Exports	4	4	0	4	3	(25)
Exports as % of Production	9	8		11	8	
Domestic Consumption	245	255	4	112	119	6
Production as % of Consumption	18	20		31	30	
Domestic Producers' Market Share (%)	16	18		28	27	

	Peppers		
	Annual Averages		%
	1982-84	1985-88	Change
Production	15	23	53
Imports	40	50	25
Imports as % of Production	267	217	
Exports	...	1	
Exports as % of Production		4	
Domestic Consumption	54	72	33
Production as % of Consumption	28	32	
Domestic Producers' Market Share (%)	27	31	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data.

Other crops include onions, asparagus and spinach. Onion production, which was valued at $31 million in 1989, is reported in all regions of the country but Atlantic Canada. Production is concentrated in Ontario, with that province being responsible for over 60 percent of national production. The volume of the domestic crop remained stable over the decade, while consumption increased slightly (Table 3.10). Imports increased from 69 percent to 83 percent of production. (It should be noted that domestic production consists mainly of yellow onions and that a major proportion of imports consists of milder Spanish onions. The production of Spanish onions in Canada is restricted by climatic conditions.) Exports grew from 13 percent to 15 percent of output. The domestic producers' share of the onion market declined 4 percentage points to 51 percent.

Asparagus production had a farm value of over $7 million in 1989. Production occurs primarily in Ontario, Quebec and British Columbia, with over three-quarters of

it being in Ontario. Asparagus processing occurs mainly in British Columbia, where the industry relies heavily on fresh imports for its processing. Production and consumption of asparagus were both up significantly over the decade (Table 3.10). Imports declined from 350 percent to 300 percent of production while exports, which were almost all in a processed state, decreased from 100 percent to 67 percent of output. Domestic producers increased their share of the asparagus market by 8 percentage points to 13 percent.

Spinach had a farm value of $2 million in 1989. It is grown commercially in Ontario, Quebec and British Columbia, with over one-half the production occurring in Ontario. Domestic production remained stable over the 1980s, while consumption displayed a moderate increase (Table 3.10). Imports, which consisted mostly of fresh spinach, grew from 400 percent to 500 percent of output, while exports were negligible. Growers lost ground in the domestic market over the decade, with their market share declining 6 percentage points to 16 percent.

Table 3.10

OTHER CROPS
(000 t)

	Onions			Asparagus		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	127	127	0	2	3	50
Imports	88	105	19	7	9	29
Imports as % of Production	69	83		350	300	
Exports	17	19	12	2	2	0
Exports as % of Production	13	15		100	67	
Domestic Consumption	198	212	7	8	10	25
Production as % of Consumption	64	60		25	30	
Domestic Producers' Market Share (%)	55	51		5	13	

	Spinach		
	Annual Averages		%
	1980-84	1985-88	Change
Production	3	3	0
Imports	12	15	25
Imports as % of Production	400	500	
Exports	...	...	
Exports as % of Production			
Domestic Consumption	15	18	20
Production as % of Consumption	20	17	
Domestic Producers' Market Share (%)	22	16	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh vegetable equivalents.

In summary, the total farm value of vegetable crops in 1989 was $1.1 billion. Potatoes are the leading crop, accounting for 40 percent of farm value. They are followed in importance by mushrooms and tomatoes which represent 14 and 12 percent of the total, respectively. Vegetable production increased 7.5 percent from the years 1980-84 to reach an average of 4.8 million tonnes in the years 1985-88. Both imports and exports also grew in volume over the decade. However, the volume of imports remained at 29 percent of production, while the volume of exports increased from 13 to 15 percent of production. With exports increasing as a share of production, Canadian producers' share of the domestic market slipped 1 percentage point to 74 percent.

3. Farms Growing Vegetables

According to the latest Census of Agriculture, there were 14,545 farms growing vegetables in Canada in 1986 (Figure 3.1). Forty percent of these farms were in Ontario and a further 26 percent were in Quebec. The other three regions each accounted for between 9 and 15 percent of the farms. Not all of these farms, however, specialized in vegetable production. A total of 7,045 farms, or 48 percent, could be considered to be specialized, with 51 percent or more of the total value of their sales accounted for by vegetables. Regionally, the percentage of farms specializing in vegetable crops varied from a high of 62 percent in Atlantic Canada to a low of 43 percent in Ontario.

The average area devoted to vegetable production for all farms was 39 acres (Figure 3.2). On a regional basis, the average vegetable area ranged from a high of 69 acres in the Prairies to a low of 18 acres in British Columbia. In the Prairies and Atlantic Canada, the areas are somewhat larger because of the large potato farms located in those regions. For farms specializing in vegetable production, the average area committed to vegetable production was much higher at 65 acres. A comparison of the results of the Censuses of Agriculture for 1981 and 1986 indicates that the average vegetable area for specialized farms increased 14 percent. This occurred as the number of small and medium-sized farms declined and the number of large farms increased.

Averages tell us little about the large number of farms which devote only a small area to vegetable production or about the importance of large vegetable farms for total industry output. As Table 3.11 shows, just under one-half of all farms use 7 acres or less for growing vegetables. For specialized farms, one-third of the farms use 7 acres or less for vegetables and a further 14 percent use between 8 and 17 acres for vegetables.

The horticultural industry, like the rest of Canadian agriculture, is skewed in that a minority of producers account for the majority of production. Census figures show that in 1985, 23 percent of vegetable growers accounted for 83 percent of total vegetable sales. Further, the 13 percent of producers who derived 81 percent or more of their farm revenue from vegetables and had annual vegetable sales greater than $50,000 accounted for 55 percent of all vegetable sales. The data also indicate that the specialized farms, which attained 51 percent or more of their revenue from vegetables, accounted for over 80 percent of the acreage in vegetable production.

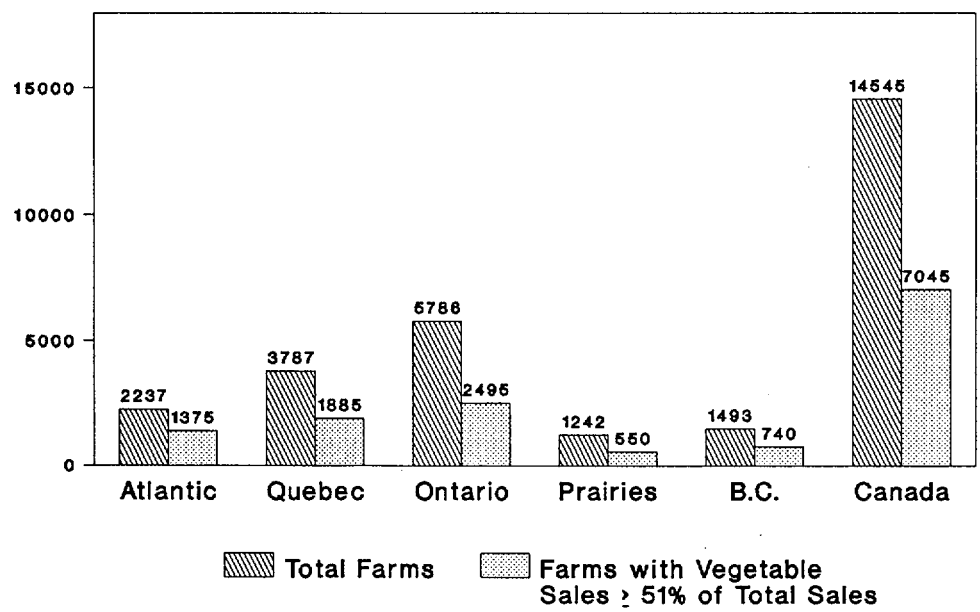
Table 3.11

PERCENTAGE DISTRIBUTION OF FARM AREA USED FOR VEGETABLE PRODUCTION, 1986

Acres	All Farms	Specialized Farms
1 - 7	48	32
8 - 17	14	14
18 - 32	11	13
33 - 127	20	28
128+	7	13
Total	100	100

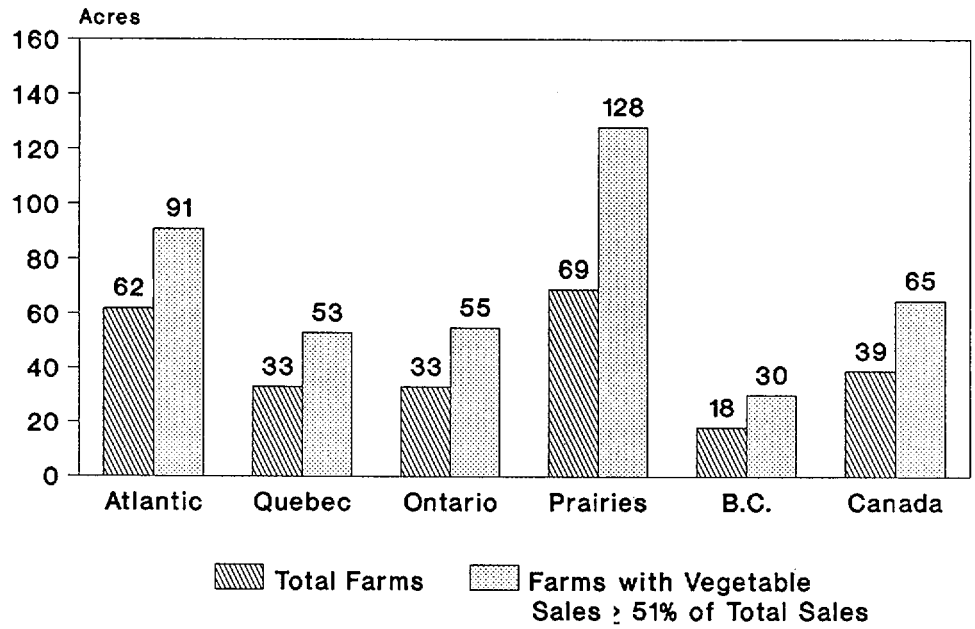
Source: Statistics Canada - Census of Agriculture, 1986.

FIGURE 3.1
NUMBER OF FARMS GROWING VEGETABLES
1986



Source: Statistics Canada, Census of Agriculture, 1986.

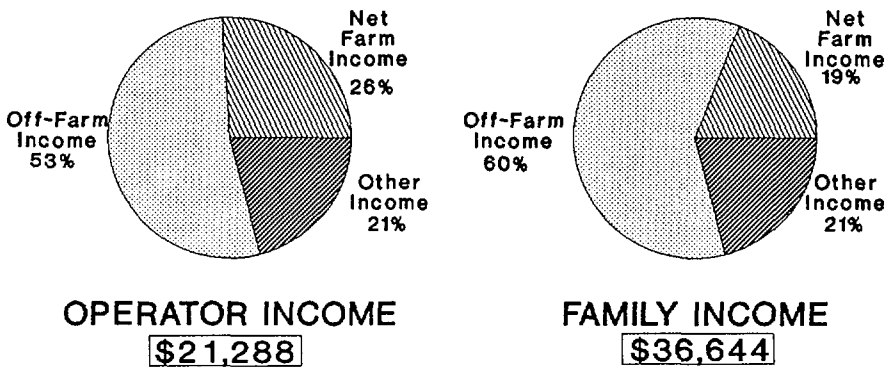
FIGURE 3.2
FARMS GROWING VEGETABLES
Average Vegetable Area - 1986



Source: Statistics Canada, Census of Agriculture, 1986.

Operator income and family income for specialized vegetable farms are presented in Figure 3.3. In 1985, operator income averaged $21,288. Fifty-three percent of this income came from off-farm work, while net income from farm operations contributed 26 percent, and other sources such as interest, dividends, pensions, family allowances and unemployment insurance accounted for 21 percent. The 52 percent of operators who reported off-farm income had an average total income of $26,918. Those operators who reported no off-farm income had an average income of $15,269. Net income from farm operations was zero or negative for 51 percent of the operators. Family income for specialized farms in 1985 averaged $36,644, with off-farm work contributing 60 percent and farm operations 19 percent.

FIGURE 3.3
AVERAGE INCOME FOR FARMS WITH
VEGETABLE SALES ≥ 51% OF TOTAL SALES
1985



OPERATOR INCOME
$21,288

FAMILY INCOME
$36,644

Source: Statistics Canada, Censuses of Agriculture-Population Linkage Database, 1986.

4. Fruit Crops

Apples are the most important fruit crop, having a farm value of $108 million (34 percent of the total for fruits), which is more than twice the value of strawberries, the next most important fruit crop. Over two-thirds of the production occurs in Ontario and British Columbia, while the remainder is divided between Quebec and Atlantic Canada. MacIntosh and Delicious apples are the most important varieties of apples grown in Canada, with MacIntosh apples accounting for the largest volume of production in Ontario and Delicious apples accounting for the largest volume of production in British Columbia. Apple processors take about 45 percent of the crop. They buy processing varieties of apples and fresh apples that do not meet grade standards and process them mostly into juice. On a regional basis, just under one-third of the B.C. crop goes to processing, while over one-half of the other regions' crops go to processing.

Domestic production fluctuated widely during the decade, but, on average, showed little change, while consumption was up moderately over the same period (Table 3.12). Imports, which consisted largely of processed apple products, climbed from 59 percent to 77 percent of production. Exports, which were primarily in the fresh state, averaged 18 percent of production over both halves of the decade. British Columbia and Ontario were responsible for almost 90 percent of the exports, with British Columbia shipping a larger percentage of its exports to countries other than the United States when compared to Ontario.

Nationally, Canadian growers' share of the domestic market contracted from 58 percent to 52 percent in the second half of the decade.

Table 3.12

APPLES
(000 t)

	Annual Averages 1980-84	Annual Averages 1985-88	% Change
Production	474	468	(1)
Imports	281	362	29
Imports as % of Production	59	77	
Exports	83	83	0
Exports as % of Production	18	18	
Domestic Consumption	672	748	11
Production as % of Consumption	71	63	
Domestic Producers' Market Share (%)	58	52	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh fruit equivalents.

Grapes had a farm value of $30 million in 1989, making it the fifth most important fruit crop. In 1989, several thousand hectares of vineyards were removed from production as part of the joint federal-provincial Grape and Wine Industry Adjustment Program. Commercial production occurs primarily in the Niagara Region in Ontario and in the Okanagan Valley in British Columbia, but there is some production in Nova Scotia.

Domestic production was on a slight upward trend until 1989, when there was a significant drop in output due to the removal of vineyards from production (Table 3.13). Consumption (including table grapes, raisins, juice and wine) increased slightly over the decade. Imports increased from 551 percent to 601 percent of output, while exports grew from 5 percent to 24 percent of output. The domestic producers' market share declined from 15 percent in the years 1980-84 to 11 percent in the years 1985-88.

Table 3.13

GRAPES
(000 t)

	Annual Averages 1980-84	Annual Averages 1985-88	% Change
Production	80	84	5
Imports	441	505	15
Imports as % of Production	551	601	
Exports	4	20	400
Exports as % of Production	5	24	
Domestic Consumption	517	569	10
Production as % of Consumption	15	15	
Domestic Producers' Market Share (%)	15	11	

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh fruit equivalents.

Berry crops include strawberries ($49 million), blueberries ($36 million), raspberries ($32 million) and cranberries ($15 million). Blueberry production is concentrated in Atlantic Canada, Quebec and British Columbia, with some production in Ontario. Virtually all of the blueberry crop in Atlantic Canada and Quebec consists of lowbush blueberries that go almost entirely to the processing market for freezing. British Columbia's crop is all highbush blueberries that are sold to the fresh market and processors for freezing. Almost 90 percent of the volume of raspberry production and over 95 percent of the volume of cranberry production occur in British Columbia. Almost all of that province's cranberry crop is shipped to the United States for processing. A significant percentage of the province's raspberry crop is also shipped to the United States for processing.

The production of strawberries grew slightly, while the production of blueberries, raspberries and cranberries increased dramatically (Table 3.14). Consumption increased significantly for all four berry crops. Canada is a net exporter of blueberries, raspberries and cranberries and the country's trade surplus in these crops increased over the decade. Exports of blueberries and raspberries grew relatively to production and exports of cranberries declined as a proportion of output. At the same time, imports of blueberries and cranberries decreased as a percentage of production, and imports of raspberries went up relatively to output. Canada has a trade deficit in strawberries. This deficit widened over the 1980s, as imports of strawberries climbed relatively to production and exports remained a constant proportion of output.

The domestic producers' market shares declined 6 percentage points to 48 percent for strawberries and dropped 6 percentage points to 85 percent for raspberries. The blueberry producers' market share increased 1 percentage point to 42 percent and the cranberry growers' share grew 2 percentage points to 16 percent.

Table 3.14

BERRY CROPS
(000 t)

	Strawberries			Blueberries		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	29	32	10	19	25	32
Imports	25	33	32	5	6	20
Imports as % of Production	86	103		26	24	
Exports	1	1	0	15	21	40
Exports as % of Production	3	3		79	84	
Domestic Consumption	53	64	21	9	11	22
Production as % of Consumption	55	50		211	227	
Domestic Producers' Market Share (%)	54	48		41	42	

	Raspberries			Cranberries		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	12	18	50	7	10	43
Imports	1	2	100	3	4	33
Imports as % of Production	8	11		43	40	
Exports	4	9	125	7	9	29
Exports as % of Production	33	50		100	90	
Domestic Consumption	9	11	22	4	5	25
Production as % of Consumption	133	164		175	200	
Domestic Producers' Market Share (%)	91	85		14	16	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh fruit equivalents.

Tender fruits include peaches, pears, cherries, and plums and prunes, which had farm values ranging from a high of $27 million for peaches to a low of $2.6 million for plums and prunes. The tender fruit industry is primarily located in the Niagara Region in Ontario and the Okanagan Valley in British Columbia because the climate, topography and soil conditions found in these two areas favour the growing of tender fruits.

The bulk of the peach crop and over one-half of the pear crop, and the plum and prune crop are grown in Ontario. Cherry production is almost equally divided between Ontario and British Columbia, with sour cherries grown mainly in Ontario and sweet cherries produced mostly in British Columbia.

Over the decade, peach production grew significantly, reflecting increases in the harvest in Ontario, while peach consumption remained flat (Table 3.15). The production of pears, and plums and prunes decreased, while the consumption of the two fruits increased moderately. Cherry production and consumption declined. Imports of peaches declined relatively to output, while imports of cherries, pears, and plums and prunes increased as a percentage of production. Exports of cherries and pears rose as a proportion of production, while exports of peaches, and plums and prunes averaged less than 500 tonnes over the decade.

Domestic growers increased their share of the peach market from 42 percent to 49 percent, while their shares of the other three markets contracted. For pears, the producers' share declined 12 percentage points to 33 percent; for plums and prunes, the growers' share fell 4 percentage points to 14 percent; and for cherries, the producers' share decreased 1 percentage point to 46 percent.

Table 3.15

TENDER FRUIT CROPS
(000 t)

	Peaches			Cherries		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	34	41	21	14	13	(7)
Imports	48	42	(13)	13	14	8
Imports as % of Production	141	102		93	108	
Exports	...	...		2	2	0
Exports as % of Production				14	15	
Domestic Consumption	82	83	1	26	25	(4)
Production as % of Consumption	41	49		54	52	
Domestic Producers' Market Share (%)	42	49		47	46	

	Pears			Plums and Prunes		
	Annual Averages		%	Annual Averages		%
	1980-84	1985-88	Change	1980-84	1985-88	Change
Production	31	26	(16)	7	6	(14)
Imports	37	50	35	32	37	16
Imports as % of Production	119	192		457	617	
Exports	1	1	0	...	...	
Exports as % of Production	3	4				
Domestic Consumption	67	75	12	39	42	8
Production as % of Consumption	46	35		18	14	
Domestic Producers' Market Share (%)	45	33		18	14	

... Less than 500 tonnes.

Source: Statistics Canada import and export commodity detail and CANSIM production data, and Agriculture Canada fresh fruit equivalents.

In summary, fruit production had a farm value of $0.3 billion in 1989. Apples are the largest crop, accounting for one-third of the total crop value. Next in importance are strawberries at 15 percent, followed by blueberries at 11 percent and raspberries at 10 percent. Over the decade, the volume of fruit production increased 2 percent. The volume of imports and exports grew relatively to production, with imports going from 125 percent to 145 percent of production and exports increasing from 17 percent to 20 percent of production. As a result of these changes, Canadian producers' share of the domestic fruit market declined from 40 percent to 35 percent.

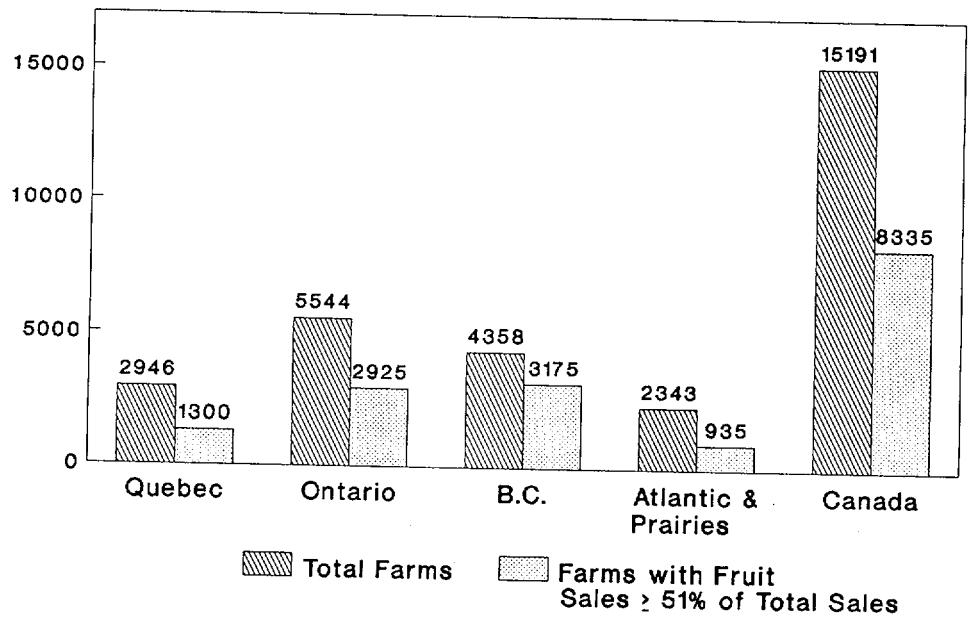
5. Farms Growing Fruits

In 1986, there were 15,191 farms growing fruits in Canada (Figure 3.4). Ontario accounted for 37 percent of the farms, followed by British Columbia with 29 percent, Quebec with 19 percent, and the Atlantic and Prairie regions combined with 15 percent. A total of 8,335 farms or 55 percent had fruit sales at least equal to 51 percent of total farm sales. On a regional basis, the percentage of farms specializing in growing fruits ranged from a high of 73 percent in British Columbia to a low of 40 percent in the Atlantic and Prairies regions combined (combined to maintain confidentiality of data).

The average area cultivated for fruit production for all fruit growing farms was 14 acres (Figure 3.5). Regionally, the area varied from a low of 10 acres in British Columbia to a high of 21 acres in the combined regions of Atlantic Canada and the Prairies. The area in the combined regions is relatively large because of the relative importance of blueberry farms in Atlantic Canada. Farms specializing in fruit production, on average, used 21 acres for fruit production. Regionally, British Columbia again had the smallest area with 12 acres and the combined regions had the largest area with 38 acres.

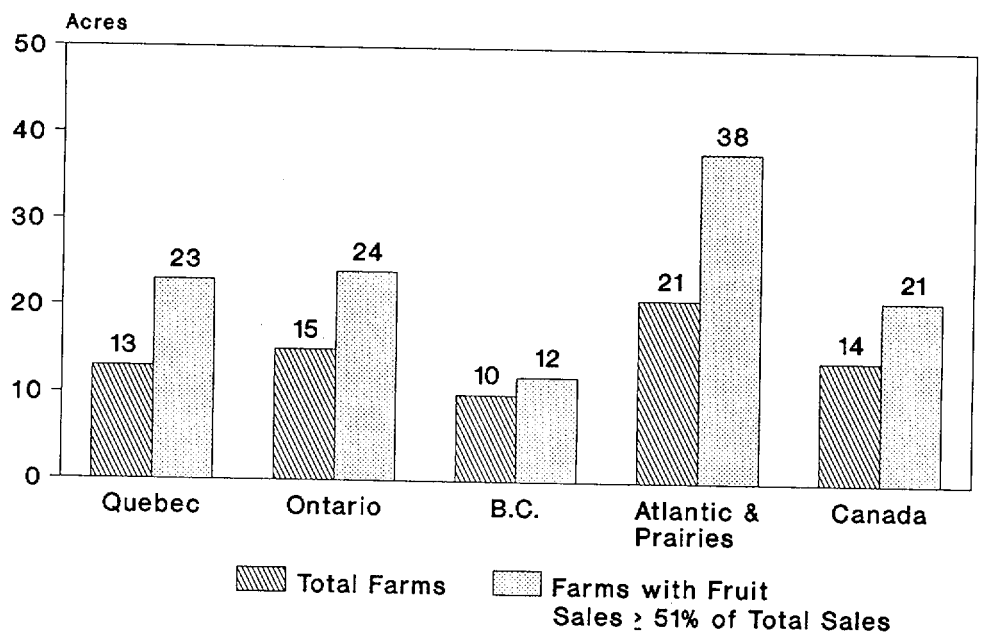
As was the case for vegetables, a minority of producers account for a majority of tree fruit, and berry and grape production. The Census data show that in 1985, 10 percent of the producers growing tree fruits accounted for 58 percent of the sales of tree fruits, and 6 percent of the producers growing berries and grapes accounted for 52 percent of the sales of berry and grape output. The data further indicate that the specialized fruit farms, which derived 51 percent or more of their annual sales from all types of fruit sales, accounted for over 80 percent of the acreage used for fruit production.

FIGURE 3.4
NUMBER OF FARMS GROWING FRUITS
1986



Source: Statistics Canada, Census of Agriculture, 1986.

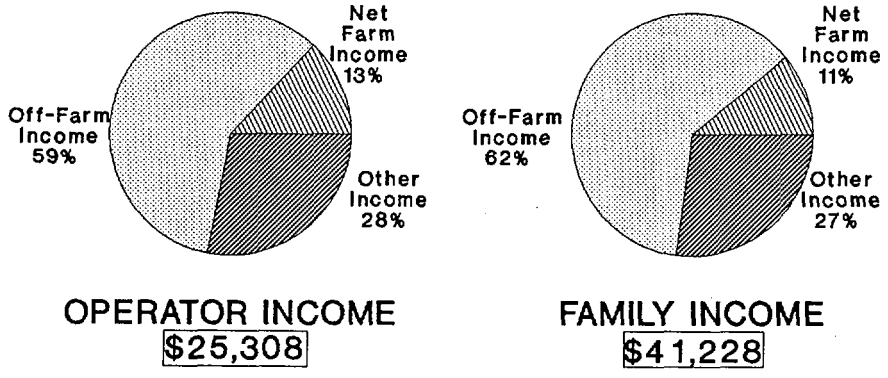
FIGURE 3.5
FARMS GROWING FRUITS
Average Fruit Area - 1986



Source: Statistics Canada, Census of Agriculture, 1986.

Figure 3.6 presents operator and family incomes for farms specializing in fruit growing. The average operator income for fruit farms in 1985 was $25,308. Fifty-nine percent of the income was derived from off-farm work, 13 percent came from farm operations and the remaining 28 percent was received from other sources. The average total income for the 58 percent of operators who reported off-farm income was $31,488, while the average income of those who did not report off-farm income was $16,624. Fifty-three percent of the operators reported zero or negative net farm income. Family income for specialized fruit farms averaged $41,228, with the distribution between sources as follows: off-farm, 62 percent; farm operations, 11 percent; and other sources, 27 percent.

FIGURE 3.6
AVERAGE INCOME FOR FARMS WITH FRUIT SALES ≥ 51% OF TOTAL SALES
1985



Source: Statistics Canada, Censuses of Agriculture-Population Linkage Database, 1986.

6. Regional Perspective

From a regional perspective, Ontario is the most important region in Canada for the production of both fruits and vegetables (Tables 3.16 and 3.17). In 1989, Ontario's vegetable crop had a farm value of $426 million, which accounted for 38 percent of the national farm value. The five most important vegetable crops grown in Ontario are tomatoes, mushrooms, potatoes, corn and cucumbers which, together, accounted for 75 percent of the value of vegetable production in the province in 1989. The province's fruit crop had a value of $132 million, which was 41 percent of the national fruit crop. The fruit crops with the highest values are apples, grapes, peaches and strawberries, with apples accounting for 32 percent of the provincial total and the other three crops making up another 53 percent.

Atlantic Canada ranks second in vegetable production, accounting for 22 percent of the national farm value for vegetables because of the overwhelming importance of its potato crop, which accounted for $230 million (93 percent) of the $248 million farm value of production of all vegetables grown in the region. Blueberries, with a farm value of $15 million, are the most valuable fruit crop; followed by apples, with a value of $10 million; and strawberries, with a value of $9 million.

Quebec is third in importance in terms of the value of both fruit and vegetable production. The province's vegetable crops had a farm value of $188 million and represent 17 percent of national production. Potatoes, corn, lettuce and carrots are the most important crops, with potatoes having a value of $63 million in 1989 and the other three crops each having a value of about $16 million. The province's reported fruit harvest, which covers apples, strawberries, blueberries and raspberries, had a farm value of $51 million. Farm values of production ranged from a high of $22 million for apples to a low of $4.5 million for raspberries.

British Columbia is fifth in value of vegetable production, but second in fruit production. The province's vegetable crops had a farm value of $106 million in 1989 and accounted for 9 percent of Canadian production. Mushrooms, potatoes, tomatoes, cucumbers and lettuce are the five largest crops, with the farm value of these crops ranging from $5 million for lettuce to $38 million for mushrooms. Fruit production had a farm value of $102 million, with the most important crops being apples, raspberries, cranberries and blueberries.

The Prairies ranked fourth in value of vegetable production and while some local production of berry crops occurs in the Prairies, no fruit production is reported for the region by Statistics Canada. The vegetable crop had a farm value of $139 million in 1989. Potatoes are the most important crop, accounting for $96 million, and mushrooms are the second largest crop, with a farm value of $28 million.

Table 3.16

REGIONAL FARM VALUES FOR 1989
VEGETABLES

($ million)

Vegetables	Atlantic	Quebec	Ontario	Prairies	British Columbia	Combined Regions	Canada
Potatoes	229.5	63.4	41.8	96.3	21.0	-	452.0
Mushrooms	-	-	85.4	27.6	37.7	8.3[1]	159.0
Tomatoes*	2.8	12.7	116.6	0.8	8.2	-	141.0
Corn	1.5	16.6	41.1	2.7	4.2	-	66.1
Cucumbers*	0.4	7.5	32.8	0.7	5.5	5.6[2]	52.5
Carrots	3.6	15.4	17.0	3.8	4.5	-	44.4
Cabbage	3.4	14.4	11.0	1.9	3.1	-	33.8
Onions	-	6.0	19.6	2.5	2.9	-	31.0
Green Peas	-	5.8	11.6	-	4.1	6.7[3]	28.1
Lettuce	1.0	15.5	3.7	-	5.2	-	25.4
Cauliflower	1.2	6.0	9.7	0.4	3.3	-	20.5
Beans	-	7.8	6.1	-	1.8	1.8[3]	17.5
Rutabagas	4.1	3.9	5.7	0.9	0.9	-	15.5
Celery	-	5.4	5.5	0.5	1.9	-	13.2
Peppers	-	3.4	7.1	-	0.3	-	10.8
Asparagus	-	1.3	5.7	0.1	0.4	-	7.5
Beets	0.4	1.5	2.3	0.2	0.4	-	4.8
Radishes	-	1.2	1.7	-	0.5	-	3.4
Brussels sprouts**	-	-	-	-	-	-	2.6
Broccoli**	-	-	-	-	-	-	2.2
Spinach	-	0.6	1.2	-	0.2	-	2.0
Parsnips	0.2	-	0.6	0.4	0.3	-	1.5
Total	248.1	188.4	426.2	138.8	106.4	22.4	1,134.8**

* Includes greenhouse.
** Processing crops only. No regional detail is available and thus the sum of row totals is greater than the sum of column totals.

1. Combined regions include Atlantic Canada and Quebec.
2. Combined greenhouse production for Atlantic Canada and the Prairies.
3. Combined regions include Atlantic Canada and the Prairies.

Totals may not add due to rounding.

Source: Statistics Canada CANSIM farm value data.

Table 3.17

REGIONAL FARM VALUES FOR 1989[1]
FRUITS

($ million)

	Atlantic	Quebec	Ontario	British Columbia	Canada
Fruits					
Apples	10.2	22.0	42.6	33.1	107.9
Strawberries	8.7	15.8	19.8	4.8	49.2
Blueberries	14.9	9.0	1.7	10.4	36.0
Raspberries	0.4	4.5	4.4	23.0	32.2
Grapes	0.1	-	26.2	3.6	29.9
Peaches	-	-	23.1	3.7	26.8
Cranberries	0.4	-	-	15.1	15.5
Pears	0.5	-	5.9	2.7	9.2
Cherries	-	-	6.0	4.9	10.9
Plums and Prunes	0.1	-	1.8	0.6	2.6
Total	35.3	51.3	131.5	101.9	320.2

1. No fruit production is reported for the Prairies by Statistics Canada.

Totals may not add due to rounding.

Source: Statistics Canada CANSIM farm value data.

7. Summary of Market Performance

The data in Table 3.18 set out indicators of consumer demand and producer performance for 22 vegetables and 10 fruits during the 1980s. For vegetables, consumer demand increased on a *per capita* basis for 15 commodities. Particularly strong increases were observed for broccoli, asparagus, peppers and cauliflower. Among these same 15 commodities, growers increased or maintained their domestic market share for 8 commodities (broccoli, peppers, asparagus, mushrooms, Brussels sprouts, corn, radishes and lettuce). For markets not experiencing a gain in *per capita* consumption, growers' domestic market share increased for 3 vegetable crops (tomatoes, cabbages and parsnips). The commodities which achieved the "ideal" combination of an increase in production, domestic market share and exports relative to production were peppers, mushrooms, Brussels sprouts and tomatoes.

For fruits, consumer demand increased on a *per capita* basis for 8 of the 10 commodities. Particularly strong increases took place for blueberries and raspberries. Among the 8 commodities, growers increased or maintained their domestic market share for blueberries and cranberries. Only for blueberries, however, was the ideal combination of an increase in production, domestic market share and export share achieved.

Table 3.18

THIRTY-TWO VEGETABLES AND FRUITS
SUMMARY OF MARKET PERFORMANCE, 1980-84 TO 1985-88

	Per Capita Consumption % Change	Volume of Production % Change	Percentage Point Change: Volume of Imports as % of Production	Percentage Point Change: Volume of Exports as % of Production	Domestic Market Share[1]
Vegetables					
Broccoli	40.8	62	(39)	0	2
Peppers*	28.8	53	(50)	4	4
Cauliflower	23.4	(2)	44	(2)	(14)
Asparagus	22.6	50	(50)	(33)	8
Spinach	16.1	0	100	0	(6)
Mushrooms	13.3	40	(29)	2	7
Cucumbers	10.1	9	8	1	(4)
Brussels Sprouts	7.1	33	(33)	25	3
Carrots	5.6	3	6	(1)	(4)
Corn	5.1	5	0	(3)	0
Onions	3.6	0	14	2	(4)
Radishes*	3.4	25	(55)	0	5
Potatoes	2.2	9	1	3	(1)
Celery	2.0	3	11	(3)	(1)
Lettuce	0.2	14	(50)	(1)	2
Tomatoes	(0.8)	12	(13)	1	4
Beans	(8.8)	(6)	6	5	(5)
Cabbage	(11.0)	(4)	(2)	3	1
Rutabagas	(13.6)	(20)	0	(8)	(1)
Green Peas	(15.2)	(14)	2	1	(3)
Parsnips	(17.6)	0	0	0	5
Beets	(19.8)	(20)	3	0	(3)
Fruits					
Blueberries	22.9	32	(2)	5	1
Raspberries	20.0	50	3	17	(6)
Cranberries	18.8	43	(3)	(10)	2
Strawberries	16.2	10	17	0	(6)
Pears	7.7	(16)	73	1	(12)
Apples	7.1	(1)	18	0	(6)
Grapes	6.2	5	50	19	(4)
Plums & Prunes	5.7	(14)	160	0	(4)
Peaches	(3.0)	21	(39)	0	7
Cherries	(6.7)	(7)	15	1	(1)

* Covers 1982-84 to 1985-88.

1. See Table 3.1 for the farm value of crops.

Source: The Tribunal's Fresh Fruit and Vegetable Profiles and Chapter III product tables.

8. Industry in Perspective

Table 3.19 presents key market data for the Canadian and U.S. fresh fruit and vegetable industries for the period 1980-88. The data cover the 32 fresh fruits and vegetables which were profiled earlier in this chapter. Over the years 1980-88, cash receipts earned on fresh production in Canada grew at a faster compound annual rate

than was the case in the United States. Similarly, the growth of Canadian consumption and exports of fresh fruits and vegetables, in current dollars, outpaced the growth of U.S. consumption and exports. The value of Canadian imports increased at a slower rate than the value of U.S. imports.

The cash receipt data in Table 3.19 show that the Canadian horticulture industry is about 9 percent the size of the U.S. industry. The data also indicate that Canadian growers supplied 52 percent of the value of the fresh fruits and vegetables consumed in Canada, while U.S. producers supplied 93 percent of the value of the produce consumed in the United States.

Table 3.19

FRESH FRUIT AND VEGETABLE INDUSTRY
CANADA - U.S. COMPARISONS

THIRTY-TWO CROPS GROWN IN CANADA[1]

	1980	1983	1986	1988	Compound Annual Growth Rate 1980-88 (%)
Cash Receipts (CAN$ million)					
Canada	799	992	1,175	1,317	6.4
United States	10,139	11,557	14,314	14,789	4.8
Canada/United States (%)	8	9	8	9	1.5
Imports (CAN$ million)					
Canada	542	825	957	1,034	8.4
United States	479	758	1,270	1,099	10.9
Canada/United States (%)	113	109	75	94	(2.3)
Exports (CAN$ million)					
Canada	106	149	170	213	9.1
United States	618	713	754	992	6.1
Canada/United States (%)	17	21	23	21	2.9
Apparent Consumption (CAN$ million)					
Canada	1,235	1,668	1,962	2,138	7.1
United States	10,000	11,602	14,829	14,896	5.1
Canada/United States (%)	12	14	13	14	1.9
Ratio of Imports to Consumption (%)					
Canada	44	49	49	48	1.2
United States	5	7	9	7	5.5

1. Data cover the 32 fruits and vegetables profiled earlier in this chapter.

Source: Statistics Canada, No. 21-603e and import and export commodity detail. U.S. Department of Commerce, USDA, (published and unpublished data).

Table 3.20 extends the coverage of the Canadian and U.S. key market information to include all fruits and vegetables grown in, exported from or imported into Canada or

the United States. Again in this case, Canadian production, consumption and exports grew at a faster pace than in the United States. Also, the value of Canadian imports increased at a slower rate than the value of U.S. imports.

On the basis of the broader commodity coverage provided in Table 3.20, the size of the Canadian industry is about 6 percent of the U.S. industry. Also, the market share of domestic producers is lower. Canadian growers supplied 39 percent of the value of the fresh fruit and vegetable consumption in Canada and U.S. producers supplied 89 percent of the value of consumption in the United States.

Table 3.20

FRESH FRUIT AND VEGETABLE INDUSTRY
CANADA - U.S. COMPARISONS[1]

	1980	1983	1986	1988	Compound Annual Growth Rate 1980-88 (%)
Cash Receipts (CAN$ million)					
Canada	799	992	1,175	1,317	6.4
United States	15,592	17,156	21,690	22,683	4.8
Canada/United States (%)	5	6	5	6	1.6
Imports (CAN$ million)					
Canada	889	1,191	1,561	1,702	8.5
United States	1,097	1,665	2,670	2,521	11.0
Canada/United States (%)	81	72	58	68	(2.3)
Exports (CAN$ million)					
Canada	118	172	200	221	8.2
United States	1,126	1,291	1,399	1,558	4.1
Canada/United States (%)	10	13	14	14	3.9
Apparent Consumption (CAN$ million)					
Canada	1,570	2,011	2,536	2,798	7.5
United States	15,563	17,530	22,961	23,646	5.4
Canada/United States (%)	10	11	11	12	2.0
Ratio of Imports to Consumption (%)					
Canada	57	59	62	61	0.9
United States	7	9	12	11	5.3

1. Data covers all crops including those not grown in Canada.

Source: Statistics Canada Cat. Nos. 21-603e, 65-202 and 65-203. U.S. Department of Commerce, USDA, (published and unpublished data) and The Almanac of the Canning, Freezing and Preserving Industry.

Table 3.21 and Figure 3.7 present Canada's trade balance for the 32 fresh fruits and vegetables which were profiled earlier.

Table 3.21

FRESH FRUIT AND VEGETABLE INDUSTRY
THIRTY-TWO CROPS GROWN IN CANADA[1]

TRADE STATISTICS

(CAN$ million)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Compound Annual Growth Rate 1980-89 (%)
Fruits											
Exports	40	48	61	55	45	47	66	69	84	52	3.0
Imports	234	275	315	331	351	376	416	430	451	437	7.2
Trade Balance	(194)	(227)	(254)	(276)	(306)	(329)	(350)	(361)	(367)	(385)	7.9
Vegetables											
Exports	66	84	92	94	108	96	104	112	129	134	8.2
Imports	308	406	401	494	488	489	541	596	583	662	8.9
Trade Balance	(242)	(322)	(309)	(400)	(380)	(393)	(437)	(484)	(454)	(528)	9.1
Total Industry											
Exports	106	132	153	149	153	143	170	181	213	186	6.4
Imports	542	681	716	825	839	865	957	1,026	1,034	1,099	8.2
Trade Balance	(436)	(549)	(563)	(676)	(686)	(722)	(787)	(845)	(821)	(913)	8.6

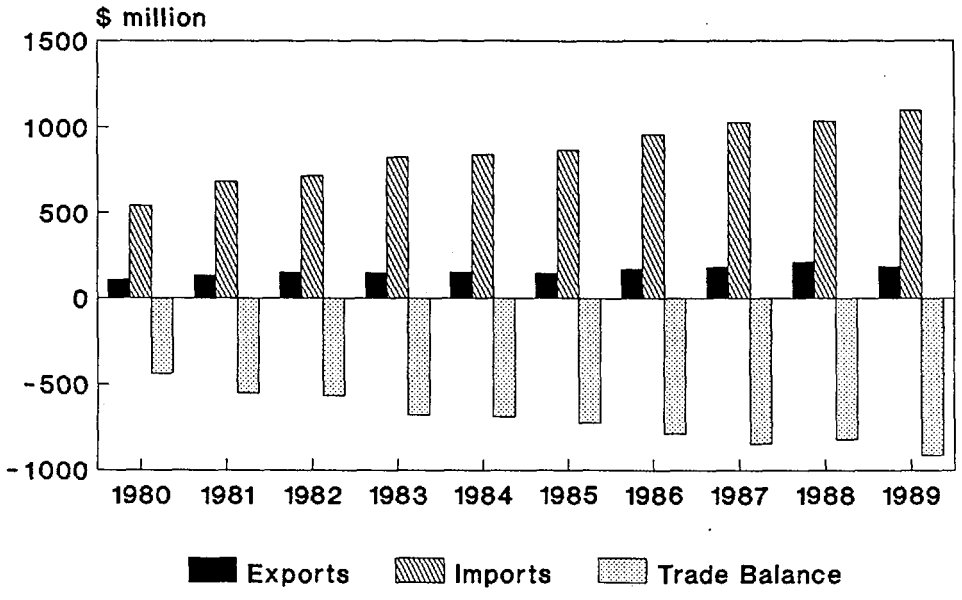
1. Data covers the 32 fruits and vegetables profiled earlier in this chapter.

Source: Statistics Canada import and export commodity detail.

Over the decade, the trade balance was negative for both fresh fruits and vegetables, with the combined deficit increasing at a compound annual growth rate of 8.6 percent. The trade deficit for fruits was smaller and grew at a slightly slower rate than the deficit for vegetables. Fruit exports expanded at a rate of 3 percent over the 1980s, while fruit imports grew at a rate of 7.2 percent. Grapes and apples averaged over 60 percent of the annual value of imports, while apples and raspberries accounted for over 80 percent of the annual value of exports.

The trade deficit for vegetables was over $0.5 billion in 1989, having increased at a rate of 9.1 percent over the decade. Vegetable imports increased at a slightly faster rate than exports. During the 1980s, tomatoes, lettuce, potatoes (including seed potatoes), peppers and celery accounted for almost two-thirds of the annual value of imports, while fresh and seed potatoes averaged just over two-thirds of the annual value of exports.

FIGURE 3.7
CANADIAN TRADE STATISTICS
Fresh Fruits and Vegetables



Source: Statistics Canada, Export and Import Commodity Detail.

Table 3.22 presents Canada's trade balance for all fresh fruits and vegetables imported into and exported from the country. The trade deficit for all commodities is about 70 percent larger than it is for just the 32 commodities grown in Canada, with imports of citrus fruits and bananas being mainly responsible for the difference.

Table 3.22

FRESH FRUIT AND VEGETABLE INDUSTRY ALL CROPS TRADE STATISTICS[1]

(CAN$ million)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Compound Annual Growth Rate 1980-89 (%)
Fruits											
Exports	43	55	68	63	52	58	75	81	86	55	2.8
Imports	540	622	709	706	796	852	954	976	1,047	1,030	7.4
Trade Balance	(497)	(567)	(641)	(643)	(744)	(794)	(879)	(895)	(961)	(975)	7.8
Vegetables											
Exports	75	92	103	109	129	115	125	136	135	141	7.3
Imports	349	456	453	485	546	549	607	665	655	729	8.5
Trade Balance	(274)	(364)	(350)	(376)	(417)	(434)	(482)	(529)	(520)	(588)	8.9
Total Industry											
Exports	118	147	171	172	181	173	200	217	221	196	5.8
Imports	889	1,078	1,162	1,191	1,342	1,401	1,561	1,641	1,702	1,759	7.9
Trade Balance	(771)	(931)	(991)	(1,019)	(1,161)	(1,228)	(1,361)	(1,424)	(1,481)	(1,563)	8.2

1. Data covers all crops including those not grown in Canada.

Source: Statistics Canada, Cat. Nos. 65-202 and 65-203.

CHAPTER IV

PROCESSED FRUIT AND VEGETABLE INDUSTRY OVERVIEW

Chapter Highlights

- In the 1980s, performance indicators show that the processing industry performed as well as the food and beverage industry and total manufacturing with respect to product price increases and financial stability and profitability, and performed better than those industries with respect to productivity gains;
- In 1988, a total of 227 establishments were engaged in the processing of fruits and vegetables, of which 190 were canning operations and 37 were freezing operations;
- In 1989, domestic manufacturers of processed fruits and vegetables had domestic shipments valued at $3.3 billion, which represented 77 percent of the Canadian market;
- Canadian shipments and consumption of processed fruits and vegetables grew more rapidly than in the United States; and
- Canadian exports of processed fruits and vegetables increased at a faster rate than imports.

1. Introduction

This chapter profiles the domestic processed fruit and vegetable industry over the 1980s and complements the fresh fruit and vegetable industry profile contained in Chapter III of this report. The processing industry is an important and dynamic segment of Canada's horticultural industry. In 1989, the industry made domestic shipments valued at $3.3 billion (more than double the farm-gate value of fresh production) and had exports of an additional $315 million. Industry employment, one-half of which is located in Ontario, stood at nearly 18,000 in 1988.

This overview looks at the major industry performance indicators over the decade and, where possible, provides data at the regional level. For the most part, the data were derived from Statistics Canada published documents. In view of the high degree of ownership concentration in the processing industry, much of the detailed information has had to be summarized, particularly at the regional level, in order to protect confidentiality.

The first section of this overview looks at the structure of the domestic processing industry with respect to its size and location of establishments.

The second section reviews the domestic market dynamics with respect to industry shipments, both for domestic consumption and for exports, and the role played by imports in the Canadian marketplace. The concluding sections review key processing industry performance indicators and rationalization as well as comparing market performance indicators between Canada and the United States.

2. Industry Structure

The domestic processing industry is comprised of both canners (including preservers) and freezers. Statistics Canada classifies the former group under the Standard Industrial Classification (SIC) 1031, and the latter group under SIC 1032, for those companies whose major activity is the processing of fruits and vegetables. This important sector of the food industry produces a wide array of processed goods, including such major commodity lines as canned tomatoes, corn and peas; bottled pickles and relishes; apple and tomato juices; and frozen goods such as french fries, peas, beans and corn. The industry also uses fruits and vegetables in the secondary processing of products such as soups, sauces and syrups.

For the most part, the processing industry is located close to Canada's major horticulture growing areas. Ontario, which accounts for more than half of industry shipments, has processing facilities located primarily in the southwestern part of the province (London and Windsor regions) as well as the Niagara fruit belt and the Toronto area. In Quebec, the bulk of the industry is near Montréal and, similarly, in Manitoba, near Winnipeg. In British Columbia, the industry is centered around the growing areas of the Fraser Valley and the Okanagan Valley as well as Vancouver. In the Atlantic region, potato processing occurs in Prince Edward Island, and along the St. John River in New Brunswick, while fruit is processed in the Annapolis Valley, Nova Scotia.

In 1988, a total of 227 establishments (plants) were actively engaged in the processing of fruits and vegetables in Canada, of which 190 (84 percent) were canning operations and the remaining 37 (16 percent) were devoted to freezing. Table 4.1 presents a breakdown of processing establishments by region and reveals that the total number of establishments in Canada has been relatively stable since the beginning of the decade. Exits from the industry have occurred almost exclusively in Ontario, which accounted for 41 percent of the operating establishments in 1987. The decline in processing facilities in Ontario has been marginally offset by the introduction of additional facilities in Quebec over the period. For the remaining regions, the total number of establishments has been relatively stable. Section 6 of this chapter outlines recent industry restructuring in the form of mergers, capital investment and plant closures.

Table 4.1

PROCESSING ESTABLISHMENTS BY REGION

Year	Atlantic	(%)	Quebec	(%)	Ontario	(%)	Prairies	(%)	British Columbia	(%)	Canada
1980	19	(8)	59	(25)	108	(47)	13	(6)	33	(14)	232
1981	19	(9)	53	(25)	103	(48)	14	(7)	25	(12)	214
1982	18	(8)	54	(25)	103	(48)	14	(7)	25	(12)	214
1983	18	(8)	61	(28)	96	(44)	13	(6)	29	(13)	217
1984	18	(8)	62	(28)	99	(44)	13	(6)	32	(14)	224
1985	19	(9)	61	(27)	95	(43)	15	(7)	32	(14)	222
1986	19	(9)	64	(29)	92	(41)	13	(6)	34	(15)	222
1987	18	(8)	62	(29)	87	(41)	12	(6)	35	(16)	214
1988	---	---	---	---	---	N.A.	---	---	---	---	227

N.A. = Not applicable.

Source: Statistics Canada, Cat. No. 31-203.

Table 4.2 reports the number of processing establishments by employment size groupings. Smaller establishments, with less than 50 employees, represent two-thirds of the total number of establishments and it is within this group that the greatest year-to-year movement occurs, perhaps reflecting the vulnerability of the smaller establishments in their ability to respond to wide swings in crop production and yields.

Table 4.2

DISTRIBUTION OF PROCESSING ESTABLISHMENTS BY EMPLOYMENT SIZE GROUPING

- Canning and Freezing -

Year	1-19		20-49		50-99		100-199		200+		Total	
	C*	F**	C*	F**	C*	F**	C*	F**	C*	F**	C*	F**
1980	96	11	42	4	24	9	23	2	14	7	199	33
1981	77	8	45	8	21	9	21	4	14	7	178	36
1982	76	9	50	6	18	9	21	4	12	8	177	36
1983	87	12	41	4	21	10	18	5	12	7	179	38
1984	92	11	41	7	25	7	17	5	13	6	188	36
1985	91	10	42	5	21	8	20	5	13	7	187	35
1986	88	12	45	6	21	8	20	3	11	8	185	37
1987	83	11	42	6	20	7	18	6	15	6	178	36
1988	---	---	---	---	---	N.A.	---	---	---	---	190	37

* C = Canning.
** F = Freezing.

N.A. = Not applicable.

Source: Statistics Canada, Cat. No. 31-203.

Of the 178 canning operations reporting in 1987, 53 establishments had 50 or more employees, with only 9 of these establishments located in regions other than Ontario and Quebec. Only 2 canning establishments, both of which were located in Ontario, had more than 500 employees. The number of frozen fruit and vegetable processors in the medium to large size employment range (over 50) is proportionately larger than for canning operations. In 1987, 19 of the 36 freezing establishments fell into this category; however, these operations tended to be more regionally dispersed as only 8 of the larger operations were in Ontario and Quebec.

Most establishments are small, Canadian-owned companies, many of which operate on a seasonal basis. However, the majority of shipments are accounted for by a small number of companies, several of which have manufacturing facilities in more than one region of the country. Canning operations, with the bulk of shipments made by multinationals, are dominated by companies such as Heinz, Pillsbury, Campbell Soup and Nabisco who market their products under nationally advertised brand names. The frozen food sector, which is even more highly concentrated, tends to have greater Canadian ownership and is dominated by companies such as McCain Foods, Cavendish Farms, Les Aliments Carrière and Omstead Foods (acquired by Heinz in 1991).

3. Domestic Market

(a) Shipments

Domestic shipments of processed fruits and vegetables are reported in Table 4.3, by value. The data, which include shipments for domestic consumption as well as for export, indicate that the value of shipments more than doubled over the period, with the largest gains occurring in the first half of the decade.

Table 4.3

PROCESSED FRUITS AND VEGETABLES

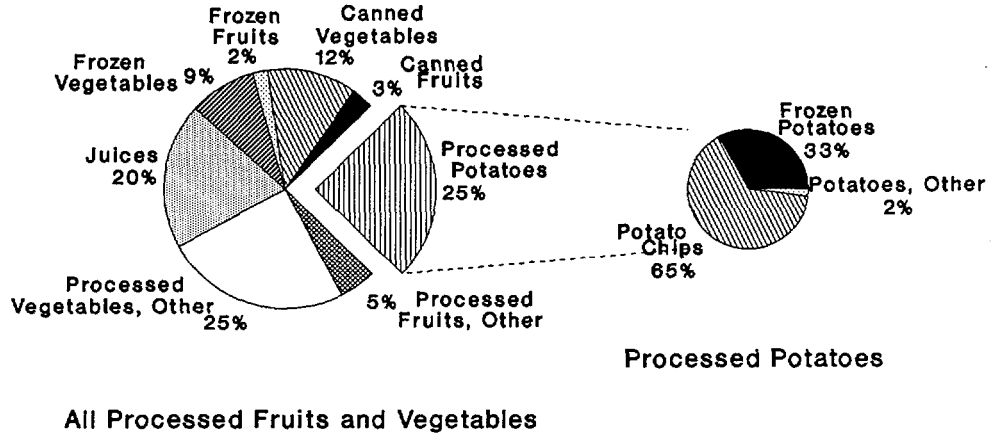
	Total Shipments ($000)		IPPI* (1981=100)	
Year	Value	% Change from Previous Period	Canned Fruits and Vegetables	Frozen Fruits and Vegetables
1980	1,485,106	-	86.6	85.8
1981	1,887,754	27	100.0	100.0
1982	2,210,925	17	112.6	109.8
1983	2,094,921	(5)	117.0	112.1
1984	2,363,247	13	121.7	118.4
1985	2,787,749	18	125.8	121.1
1986	2,997,960	8	129.2	121.9
1987	3,277,968	9	135.7	127.2
1988	3,444,136	5	142.5	134.3
1989	3,601,696	5	146.5	141.1

*IPPI = Industrial Product Price Index.

Source: Statistics Canada, Cat. Nos. 31-211 and 62-011 and Tribunal estimates.

Figure 4.1 graphically displays domestic shipments by product categories. Preserved vegetables and soups, processed potatoes and juices accounted for about 70 percent of the total value of processed shipments in 1989, a distribution which changed little over the decade.

FIGURE 4.1
SHIPMENTS BY PRODUCT CATEGORY
PROCESSED FRUITS AND VEGETABLES
1989 Value



Source: Tribunal questionnaires.

Table 4.4 reports the regional distribution of domestic shipments over the four years, 1986-89. The distribution by region remained virtually unchanged throughout the period, with Ontario accounting for over one-half of all shipments. As reported in Statistics Canada data, shipments originating in Ontario, Quebec and British Columbia were diverse in product output, whereas shipments originating in the Atlantic and Prairie regions were mainly processed potato products.

Table 4.4

SHIPMENTS BY REGION

- 1986-89 -

Region	1986		1987		1988		1989	
	($000)	% Share	($000)	% Share	($000)	% Share	($000)	% Share
Atlantic	221,823	7	252,033	8	254,024	7	279,390	8
Quebec	510,638	17	561,495	17	581,764	17	593,705	16
Ontario	1,588,497	53	1,754,932	54	1,868,472	54	1,934,241	54
Prairies	396,561	13	416,599	13	431,033	13	489,014	14
British Columbia	280,441	9	292,909	9	308,843	9	305,346	8
Total Shipments	2,997,960	100	3,277,968	100	3,444,136	100	3,601,696	100

Source: Statistics Canada, Cat. No. 31-211 and Tribunal estimates.

(b) Imports

Prior to CUSTA, imports of most canned and frozen vegetable products were subject to an *ad valorem* duty in the range of 15 percent to 20 percent, while most processed fruit products were subject to an *ad valorem* rate ranging from 10 percent to 15 percent. Most imports into Canada of processed fruits and vegetables from non-U.S. sources continue to be subject to these MFN rates. However, in accordance with CUSTA, tariffs on imports from the United States will decline by 10 percent per year until they are reduced to zero on January 1, 1998.

Table 4.5 shows total imports of processed fruits and vegetables over the 1980s. The value of total imports increased sharply in 1981, 1984 and 1988, and by 62 percent over the entire decade.

Table 4.5

PROCESSED FRUITS AND VEGETABLES
TOTAL IMPORTS

($000)

Year	Value	% Change from Previous Period
1980	484,281	-
1981	576,064	19
1982	575,618	(0)
1983	545,105	(5)
1984	656,176	20
1985	645,123	(2)
1986	631,145	(2)
1987	686,053	9
1988	774,840	13
1989	786,182	1

Source: Statistics Canada Imports Commodity Detail and Cat. No. 65-203.

Table 4.6 shows the percentage distribution of imports for selected years, by product category. Frozen fruits and vegetables and processed potato products accounted for the least amount of import activity over the period, whereas juices, mainly in the form of concentrates, accounted for the largest import category. Imports of canned products, as a percentage of total value, showed a steady downward trend over the decade.

Table 4.6

DISTRIBUTION OF TOTAL IMPORTS

- Selected Years (%) -

	1980	1983	1986	1989
Canned Fruits and Vegetables	32	27	25	23
Frozen Fruits and Vegetables	5	4	4	6
Juices[1]	36	39	38	38
Processed Vegetables, Other[2]	7	11	12	13
Processed Fruits, Other[3]	17	18	17	18
Processed Potatoes[4]	2	2	2	2
Total Imports	100	100	100	100

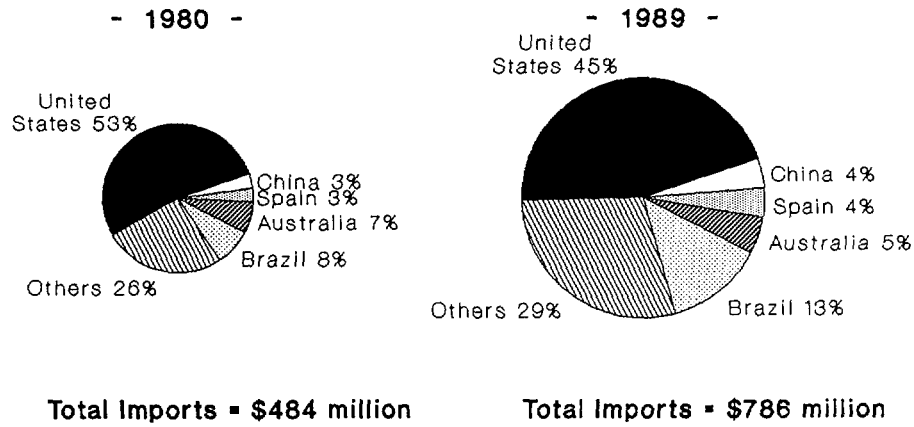
1. Includes fruit and vegetable juices.
2. Includes dried vegetables, soups, pickles, relishes and vegetable sauces.
3. Includes canned pie fillings, jams, jellies, marmalades, dried fruits and other fruit preservations.
4. Includes frozen potatoes, potato chips and other processed potatoes.

Total imports may not add to 100 percent due to rounding.

Source: Statistics Canada Imports Commodity Detail and Cat. No. 65-203.

Imports by principal country of export, in value, are shown in Figure 4.2. The United States is by far the largest source of processed imports at 45 percent of the total value, down 8 points of share since 1980. Brazilian products have made the largest gain, up 5 points of share over the decade. While five countries account for 71 percent of the imports of 1989, the remaining 29 percent is dispersed among more than 75 countries, none of which individually represent more than 2 percent of the total value.

FIGURE 4.2
CANADIAN IMPORTS BY PRINCIPAL COUNTRY
PROCESSED FRUITS AND VEGETABLES
Selected Countries by Value



Total Imports = $484 million

Total Imports = $786 million

Source: Statistics Canada, Cat. 65-203.

(c) Exports

Exports of processed fruits and vegetables, in value, for the period 1980 through 1989, are shown in Table 4.7. Total exports grew at fairly steady annual rates and more than doubled in value over the 10-year period. Frozen vegetables and frozen potato products recorded the largest percentage increases over the period. Exports of canned fruits and vegetables and juices have decreased in percentage terms, whereas frozen fruits and vegetables and processed potato products have increased. Throughout the decade, exports represented a relatively constant percentage of the total value of domestic shipments (about 9 percent).

Table 4.7

PROCESSED FRUITS AND VEGETABLES
TOTAL EXPORTS

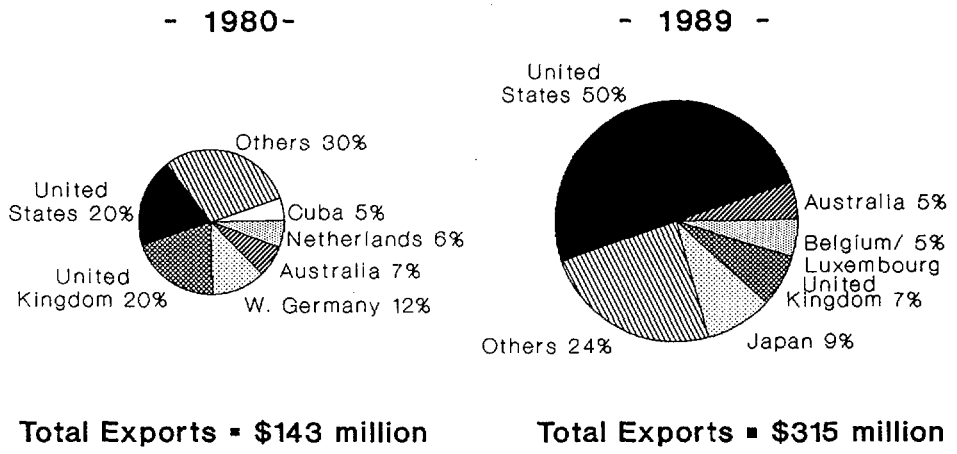
($000)

Year	Value	% Share of Industry Shipments
1980	143,274	10
1981	161,467	9
1982	172,409	8
1983	168,981	8
1984	183,717	8
1985	195,111	7
1986	229,432	8
1987	269,515	8
1988	301,334	9
1989	314,667	9

Source: Statistics Canada Export Commodity Detail and Cat. No. 65-202.

Figure 4.3 shows the destination of Canadian processed fruit and vegetable exports. Exports to the United States, which accounted for one-half of the total exports of 1989, increased considerably over the 10-year period, from a 20 percent share in 1980 to a 44 percent share in 1985. Significant export gains were also recorded for Japan and Belgium/Luxembourg, while exports to the United Kingdom and West Germany were down sharply from 1980 values.

FIGURE 4.3
CANADIAN EXPORTS BY PRINCIPAL COUNTRY
PROCESSED FRUITS AND VEGETABLES
Selected Countries by Value



Source: Statistics Canada, Cat. 65-202.

4. Apparent Market

In the main, the market figures have been developed from Statistics Canada published information. However, shipment data subsequent to 1986 have not been published and, accordingly, the Tribunal has collected the necessary data directly from a sampling of the industry via questionnaires.

In addition, import statistics are reported by Statistics Canada on a free-on-board basis (f.o.b.) and are therefore valued at the point of direct shipment to Canada. Domestic shipment data, however, are reported on the basis of net selling value. In order to have import values that are comparable to shipment values, the f.o.b. import values have been inflated by 25 percent to reflect such costs as freight, insurance and duties. This factor was calculated from Statistics Canada input-output data.

Table 4.8 provides details on the total Canadian market. With the exception of 1983, the market for processed fruits and vegetables has shown steady year-over-year growth throughout the decade. Over the 10-year period, domestic producers strengthened their position in the marketplace, gaining 8 points of market share from import competition.

Table 4.8

APPARENT CANADIAN MARKET
PROCESSED FRUITS AND VEGETABLES - TOTAL

($000)

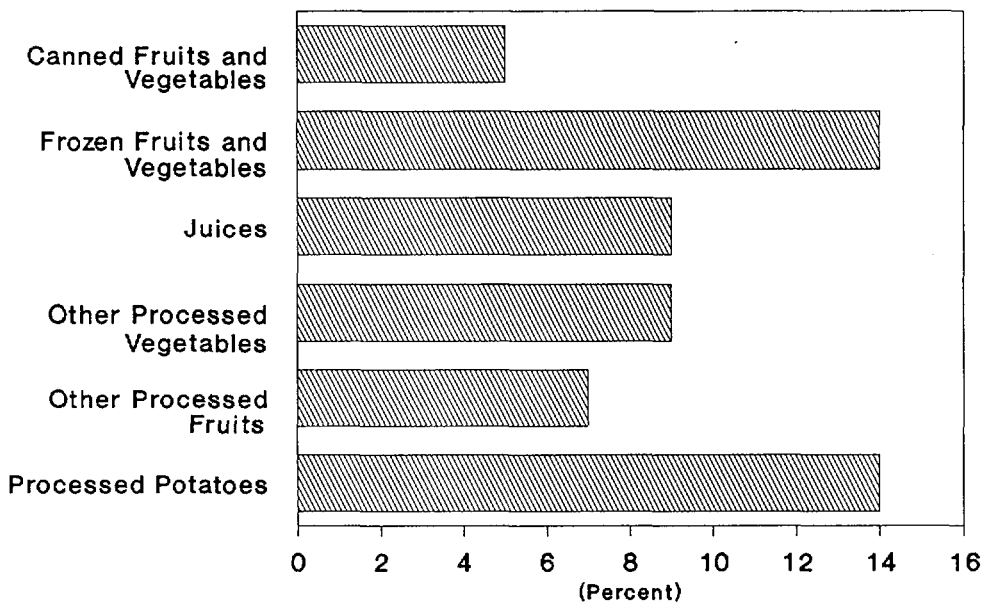
	Domestic Shipments (net of exports)	% Share	Imports[1]	% Share	Market	Market Index (1981=100)
1980	1,341,832	69	605,352	31	1,947,184	80
1981	1,726,287	71	720,080	29	2,446,367	100
1982	2,038,516	74	719,523	26	2,758,039	113
1983	1,925,940	74	681,381	26	2,607,321	107
1984	2,179,530	73	820,220	27	2,999,750	123
1985	2,592,638	76	806,404	24	3,399,042	139
1986	2,768,528	78	788,931	22	3,557,459	145
1987	3,008,452	78	857,566	22	3,866,018	158
1988	3,142,801	76	968,550	24	4,111,351	168
1989	3,287,029	77	982,728	23	4,269,757	175

1. CIF (cost insurance freight) values have been calculated by advancing Statistics Canada f.o.b. values by 25 percent. The advance has been derived from Statistics Canada input/output data.

Source: Statistics Canada Commodity Detail Cat. Nos. 31-211, 65-202 and 65-203 and Tribunal estimates.

The apparent Canadian market, aggregated into six product category groupings, is shown graphically in Figure 4.4. Although the value of all market categories has increased over the decade, canned products have exhibited the least compound annual growth, about 5 percent. On the other hand, frozen fruits and vegetables and processed potato products have shown the largest gains, with compound annual growth rates of 14 percent.

FIGURE 4.4
APPARENT CANADIAN MARKET
In Value, by Product Category
Compound Annual Growth Rates 1980-89



Source: Statistics Canada, Cat. 31-211, 65-202 and 65-203.

5. Industry Performance

(a) Financial

Sales and profits recorded by the processing industry made steady gains throughout the period 1980-87, as presented in Table 4.9. Sales increased by 68 percent over the eight years while gross and net profits more than doubled.

Table 4.9

PROCESSED FRUIT AND VEGETABLE INDUSTRY*
SALES AND PROFITS

	1980	1981	1982	1983	1984	1985	1986	1987
Sales								
$ million	1,816.4	2,071.3	2,290.4	2,298.3	2,479.8	2,841.2	2,959.5	3,055.7
% change		14	11	0	8	15	4	3
Gross Profits								
(% of sales)								
$ million	381.6	457.7	548.8	562.4	619.3	718.0	819.4	862.3
% change		20	20	2	10	16	14	5
Net Profits								
(% of sales)								
$ million	54.4	69.2	94.4	100.3	123.5	101.7	136.7	147.0
% change		27	36	6	23	(18)	34	8

* The industry is defined by the 1960 industrial classification, SIC 112.

Source: Statistics Canada, Cat. No. 61-207.

The processed fruit and vegetable industry compares favourably, in terms of profit performance, with both the total food and beverage industry and total manufacturing (both of which include processed fruits and vegetables). As reported in Table 4.10, the processing industry, in most years after 1981, generally outperformed the other two industries on all three profitability indicators.

Table 4.10

PROFITABILITY RATIOS

- Selected Industries -

	Net Profit to Sales			Net Profit to Assets			Net Profit to Equity		
	F&V*	F&B**	Mfg***	F&V*	F&B**	Mfg***	F&V*	F&B**	Mfg***
1980	3.0	2.6	4.9	5.0	5.7	6.6	11.2	14.2	14.9
1981	3.3	2.3	4.2	5.7	5.2	5.4	13.0	13.7	13.2
1982	4.1	2.6	1.4	6.6	5.3	1.7	14.6	14.7	4.2
1983	4.4	3.0	2.5	7.4	6.3	3.3	15.8	16.7	7.9
1984	5.0	2.7	4.1	8.3	5.4	5.5	18.4	14.4	12.7
1985	3.6	2.5	3.2	5.9	4.7	4.2	12.9	11.3	9.6
1986	4.6	3.1	4.4	8.0	5.6	5.6	18.2	13.2	12.3
1987	4.8	3.7	4.6	8.6	6.5	5.6	20.0	16.1	12.4

*F&V = The Fruit and Vegetable Industry as defined by the 1960 industrial classification, SIC 112.
**F&B = The Food and Beverage Industry.
***Mfg = Total Manufacturing.

Source: Statistics Canada, Cat. No. 61-207.

(b) Employment and Earnings

Processed fruit and vegetable industry employment, both hourly and salaried, is presented in Table 4.11. Total national employment in the industry has been very steady over the period 1980 through 1988, averaging 17,400 employees annually. However, on a regional basis, employment levels have varied, increasing in Quebec and the Prairies, but decreasing in British Columbia. In 1987, employment levels in the Atlantic region and in Ontario were virtually unchanged from the levels reported in 1980.

Table 4.11

PROCESSED FRUIT AND VEGETABLE INDUSTRY EMPLOYMENT BY REGION

- Hourly and Salaried -

Year	Atlantic*	%	Quebec	%	Ontario	%	Prairies**	%	British Columbia	%	Canada	%
1980	3,003	17	2,538	14	9,241	53	816	5	1,972	11	17,570	100
1981	2,929	17	2,261	13	9,005	52	1,152	7	1,895	11	17,242	100
1982	2,956	17	2,352	14	8,893	52	1,037	6	1,806	11	17,044	100
1983	2,758	16	2,481	15	8,806	52	1,058	6	1,693	10	16,796	100
1984	3,201	18	2,719	15	9,270	52	878	5	1,660	9	17,728	100
1985	3,172	18	2,724	16	8,772	51	958	6	1,652	10	17,278	100
1986	3,053	18	2,706	16	8,739	51	1,066	6	1,506	9	17,070	100
1987	2,941	17	2,964	17	9,141	52	1,122	6	1,534	9	17,702	100
1988			----------		N.A.		----------				17,824	100

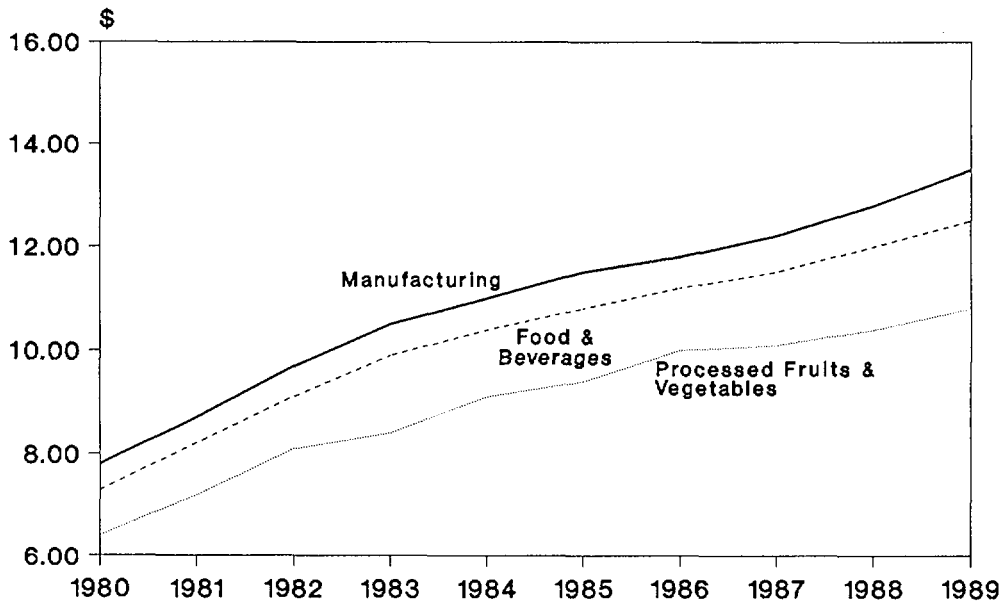
* Atlantic includes Saskatchewan and Alberta SIC 1032 (frozen) for 1980, 1981, 1982 and 1984, in order to protect confidentiality.

N.A. = Not applicable.

Source: Statistics Canada, Cat. No. 31-203.

Average hourly earnings in the processed fruit and vegetable industry increased by 69 percent over the decade. However, in absolute terms, hourly earnings for the processing industry have lagged behind both the food and beverage industry and total manufacturing, and the earning gap is increasing, as reflected in Figure 4.5. In 1980, earnings in the processed fruit and vegetable industry were $0.90 per hour less than in the food and beverage industry and $1.40 per hour less than in total manufacturing. By 1989, the gap had increased to $1.70 per hour and $2.70 per hour, respectively. While the gap has been widening in absolute terms, average annual increases in hourly earnings in the processed fruit and vegetable industry have been identical to the food and beverage industry at 6.7 percent over the 10 years, and slightly less than the average annual increase of 7 percent recorded by total manufacturing.

FIGURE 4.5
AVERAGE HOURLY EARNINGS
Certaines industries



Source: Statistics Canada, CANSIM.

(c) Productivity and Investment

Productivity for the years 1980 to 1988, defined as gross domestic product in 1981 constant dollars per production employee, is shown in Table 4.12 for selected industries. After 1981, productivity for the processed fruit and vegetable industry rose steadily over the period. In constant dollars, 1980 employee productivity was $40,400 and by 1988, reached $56,900, a compound annual growth rate of 4.4 percent. The increase in productivity surpassed that of both the food industry and total manufacturing in the years 1986 and 1988 (1987 data are not available).

Table 4.12

INDUSTRY EMPLOYMENT, REAL GDP* AND PRODUCTIVITY**

- Selected Industries -

	Processed Fruit & Vegetable			Food			Manufacturing		
	Production Employment	GDP	Productivity	Production Employment	GDP	Productivity	Production Employment	GDP	Productivity
Year	- 1981 $000 -			- 1981 $000 -			- 1981 $000 -		
1980	13,145	531,000	40.4	141,810	6,247,500	44.1	1,346,187	59,460,700	44.2
1981	12,878	501,300	38.9	141,953	6,296,900	44.4	1,337,433	61,648,000	46.1
1982	12,662	514,400	40.6	136,303	6,292,100	46.2	1,205,859	53,702,400	44.5
1983	12,504	577,000	46.1	129,301	6,179,600	47.8	1,193,912	57,168,700	47.9
1984	12,956	625,500	48.3	130,114	6,460,800	49.7	1,240,817	64,541,600	52.0
1985	13,115	615,900	47.0	135,226	6,886,700	50.9	1,305,159	68,180,500	52.2
1986	12,737	690,600	54.2	137,261	6,864,700	50.0	1,351,563	68,968,300	51.0
1987***	N.A.	709,600	N.A.	N.A.	7,083,000	N.A.	N.A.	72,951,800	N.A.
1988	13,254	754,800	56.9	143,502	7,206,200	50.2	1,474,738	77,379,800	52.5
Compound Annual Growth Rate 1980-88 (%)	0.1	4.5	4.4	0.1	1.8	1.6	1.1	3.3	2.2

* Gross domestic product at factor cost, by industries.
**Productivity is defined as gross domestic product per production employee (1981 constant dollars).
***Employment figures are available only for total industry activity.

N.A. = Not applicable.

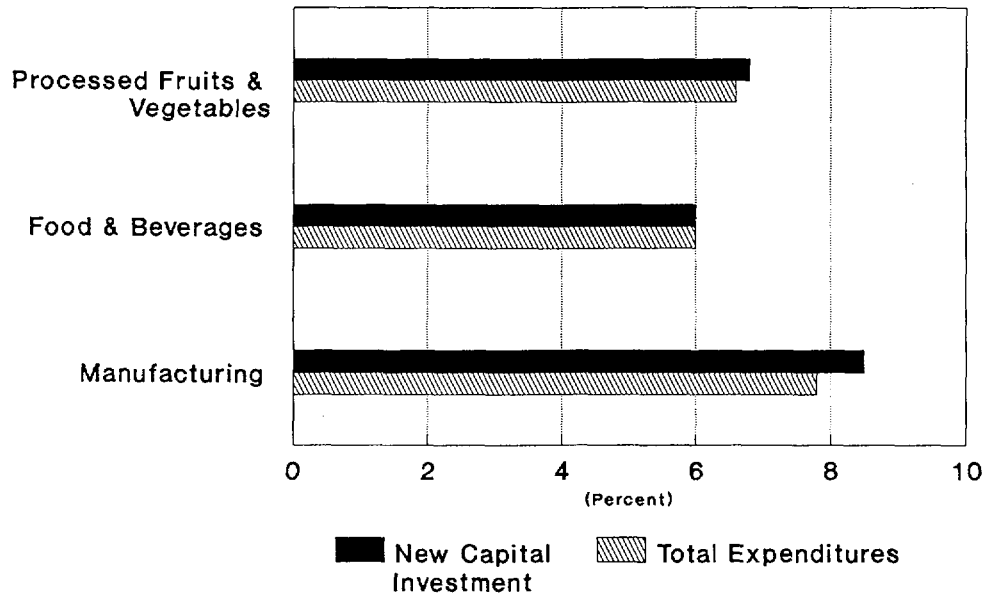
Source: Statistics Canada, Cat. No. 31-203 and CANSIM.

Annual new capital investment[1] by the processed fruit and vegetable industry almost doubled from 1980 to 1989, from $68 million in 1980 to $123 million by 1989. New capital investment as a share of total capital expenditures[2] ranged between 60 percent and 70 percent over the 10-year period. As well, new investment in construction remained fairly constant over the decade, while new investment in machinery more than doubled during this period.

1. New capital investment is defined by Statistics Canada as total outlays for construction and for the acquisition of producers' machinery and equipment.
2. Total expenditures include new capital investment and repair expenditures.

The compound annual growth rate of new capital investment and total capital expenditures for the processed fruit and vegetable industry was less than the rate for total manufacturing, but above the rate for the food and beverage industry, as shown in Figure 4.6, for the period 1980 to 1989.

FIGURE 4.6
EXPENDITURES FOR SELECTED INDUSTRIES
Compound Annual Growth Rates 1980-89



Source: Statistics Canada, Cat. 61-205 and 61-214.

6. Processing Industry Rationalization

On January 1, 1989, CUSTA took effect. The major purpose of the agreement is to remove barriers to trade, whether tariff or non-tariff, between the two countries. The agreement was signed near the end of a worldwide period of corporate mergers, acquisitions and leveraged buyouts that was altering the structure of many corporations and industries. The agreement provided an added stimulus to corporate restructuring in North America. Many firms indicated that in order to compete in the larger market, they needed to make structural changes early in the 10-year period despite the gradual phase-out of existing tariffs rather than at the end of the period, when tariffs would be eliminated.

In order to compete in the larger North American market, firms need to achieve greater efficiencies in both production and marketing. The resulting restructuring in the fruit and vegetable processing industry has been widespread, including all firm sizes as well as both Canadian-owned and multinational firms. While industrial restructuring, or rationalization, has taken many forms, the changes may be grouped into three areas: mergers and acquisitions, new capital investment and plant closures.[3]

(a) Mergers and Acquisitions

For the most part, the significant mergers and acquisitions in the food and beverage industry occurred in the three or four-year period preceding CUSTA. Corporations viewed acquisitions and mergers " ... as a good means of introducing new products to corporate lines while avoiding the risks associated with launching their own new brands. In addition, they (could) increase a company's resources while ridding it of poorly performing lines, thus placing themselves in a better position to compete."[4]

During this pre-CUSTA period, a number of highly publicized mergers and acquisitions took place. With respect to fruit and vegetable processing, the following were a few of the more noteworthy actions:

1985 - Nabisco Brands Canada acquired Canadian Canners from R.J.R. Nabisco;

1987 - Pillsbury Canada Limited acquired Fraser Valley Foods;

1988 - Hostess Food Products, Canada's largest snack food producer, merged with Frito Lay;
- Borden U.S. acquired Humpty Dumpty Canada; and
- Grand Metropolitan of U.K. acquired Pillsbury U.S.

(b) New Investments

Spending on new capital investment projects for the domestic food and beverage industry increased in 1990 and 1991, in spite of recessionary pressures. A few of the more highly publicized investments by fruit and vegetable processors, which consisted

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3. Information on mergers and acquisitions, new capital investment and plant closures is drawn from Agriculture Canada, Food Development Division, quarterly and annual newsletters on the Canadian processed food industry.
4. Agriculture Canada, The Canadian Processed Food Industry, newsletter, 1990.

of expenditures on new plant construction or expansion and on new equipment and machinery, included:

1989 - Pillsbury Canada Limited's investment of $12 million in its six plants;
- H.J. Heinz Co. Ltd.'s investment of $20 million in its Leamington plant;
- Campbell Soup Co.'s capital projects expenditures of $14.5 million;

1990 - Cavendish Farms' upgrade of its New Annan, P.E.I., plant at a cost of $30 million;
- Nabisco Brands' investment of $2.7 million to increase production in its Dresden, Ontario, plant;
- Cadbury Beverages' expansion of its concentrate facilities in Don Mills, Ontario.

1991 - McCain Foods' new $36 million plant in Carlton, P.E.I. began production;
- Campbell Soup Co.'s investment of $9 million to upgrade and expand production facilities;
- Pillsbury Canada Limited's capital improvements of $14.5 million;
- Strathroy Foods' $2.65 million expansion to its frozen vegetable processing plant.

(c) Plant Closures

Plant closures in the fruit and vegetable processing industry increased sharply in 1990, but appear to have slowed in 1991. Significant closures which occurred over the past three years included:

1989 - Gerber Canada's plans to cease baby food production in Niagara Falls;

1990 - Cobi Foods' closure of its multi-line Whitby and Bloomfield, Ontario, plants;
- Campbell Soup Co.'s closure of its Portage La Prairie soup plant;
- Hunt-Wesson's closure of its Tilbury tomato canning plant;
- H.J. Heinz Co. Ltd.'s plans to close its Leamington pickle production line in 1991; and
- Nabisco Brands Canada's closure of its tomato processing plant in Leamington, Ontario.

1991 - Nabisco Brands Canada's closure of its 109 year old Simcoe, Ontario, plant;
- Olinda Foods' closure of its tomato processing operation in Ruthven, Ontario.

7. Industry in Perspective

Table 4.13 compares the Canadian processed fruit and vegetable industry with its U.S. counterpart. In 1988, Canadian shipments were equal to 9 percent of U.S. shipments while the apparent market consumption was 11 percent of U.S. consumption. However, while shipments by U.S. producers increased only marginally between 1985 and 1988, and market growth was non-existent, Canadian shipments and market expansion occurred at a steady rate.

Table 4.13

PROCESSED FRUIT AND VEGETABLE INDUSTRY
CANADA - U.S. COMPARISONS

	1975	1980	1985	1988	Compound Annual Growth Rate 1975-88 (%)
Shipments (CAN$ million)					
Canada*	982	1,554	2,358	3,067	9.2
United States	12,381	20,675	31,952	33,385	7.9
Canada/United States (%)	8	8	7	9	1.1
Imports (CAN$ million)					
Canada*	312	607	807	936	8.8
United States	467	1,064	2,893	2,750	14.6
Canada/United States (%)	67	57	28	34	(5.1)
Exports (CAN$ million)					
Canada*	73	204	178	263	10.4
United States	663	1,824	1,627	2,288	10.0
Canada/United States (%)	11	11	11	11	0.3
Apparent Consumption (CAN$ million)					
Canada*	1,221	1,957	2,987	3,740	9.0
United States	12,185	19,915	33,218	33,847	8.2
Canada/United States (%)	10	10	9	11	0.8
Ratio of Imports to Consumption (%)					
Canada*	26	31	27	25	(0.2)
United States	4	5	9	8	5.9

* Data may not agree with figures contained elsewhere in this report. Data contained in this table are comparable to U.S. product categories, some of which are outside the scope of this reference.

Source: Canada: Statistics Canada, Cat. Nos. 31-203, 32-218, 32-250 and 65-001.
United States: USDC, Bureau of the Census, Annual Census of Manufactures.

Unlike the United States, Canada had an annual trade deficit on processed fruits and vegetables throughout the 1975-88 period. Table 4.14 provides further details of the

trade data on a commodity grouping basis. Figure 4.7 displays the deficit over the 1980s. The overall trade deficit is a result of a trade deficit on canned and preserved fruits and vegetables and on juices, partially offset by a trade surplus for frozen products and processed potato products. While the total value of Canada's trade deficit changed only marginally over the decade, imports, as a share of domestic consumption, decreased. In the United States, however, imports of processed fruits and vegetables have been gaining an increasing share of consumption.

Over the decade, a shift has occurred in the source of the trade deficit. In 1980, the United States accounted for 65 percent of Canada's negative balance, with the remaining one-third spread among a small number of countries. By 1989, the value of Canadian exports to the United States had grown significantly and, consequently, the U.S. share of the trade deficit had fallen to 42 percent.[5]

Table 4.14

PROCESSED FRUIT AND VEGETABLE INDUSTRY TRADE STATISTICS

(CAN$ million)

Commodity Groupings	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Compound Annual Growth Rate 1980-89 (%)
Canned & Preserved[1]											
Exports	75	82	82	84	78	86	94	110	124	134	6.6
Imports	277	326	316	301	352	336	344	357	405	423	4.8
Trade Balance	(202)	(245)	(234)	(217)	(273)	(249)	(250)	(247)	(281)	(289)	4.0
Frozen											
Exports	41	53	55	48	51	51	56	83	88	94	9.8
Imports	24	28	30	23	25	26	35	41	45	44	6.9
Trade Balance	16	26	25	26	27	25	21	42	44	49	13.2
Juices											
Exports	13	13	13	17	23	23	31	25	26	21	5.4
Imports	175	215	222	213	270	272	239	269	305	297	6.0
Trade Balance	(162)	(202)	(209)	(196)	(247)	(249)	(209)	(244)	(279)	(276)	6.1
Potato Products[2]											
Exports	14	13	23	20	31	35	48	51	63	66	18.5
Imports	7	7	7	9	10	12	13	19	20	22	13.3
Trade Balance	7	6	15	11	21	23	35	32	42	44	22.5
Total											
Exports	143	161	172	169	184	195	229	270	301	315	9.1
Imports	484	576	576	545	656	645	631	686	775	786	5.5
Trade Balance	(341)	(415)	(403)	(376)	(472)	(450)	(402)	(417)	(474)	(472)	3.7

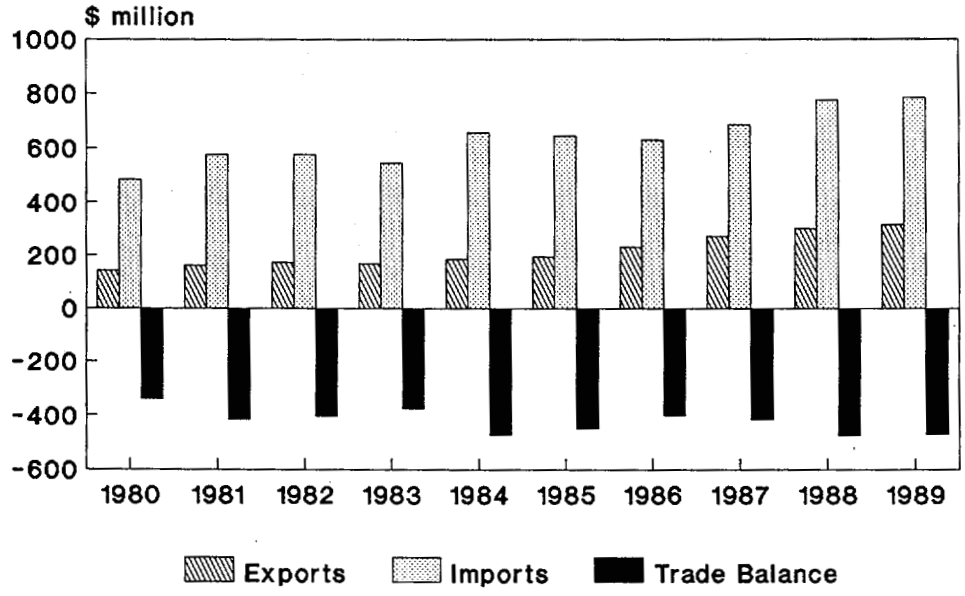
1. Includes dried vegetables, soups, pickles, relishes, vegetable sauces, as well as canned fruit pie fillings, jams, jellies, marmalades and dried fruits.
2. Includes potatoes that are frozen, canned or dried, as well as potato chips.

Totals may not add to 100 percent due to rounding.

Source: Statistics Canada, Cat. Nos. 65-202 and 65-203.

5. Canadian International Trade Tribunal Staff Report, Processed Fruit and Vegetable Industry Profile, May 1991, Tables 10 and 12, Figures 3 and 4.

FIGURE 4.7
CANADIAN TRADE STATISTICS, 1980-89
Processed Fruits and Vegetables



Source: Statistics Canada, Cat. 65-202 and 65-203.

CHAPTER V

MARKETING, CONSUMER TRENDS AND DISTRIBUTION

Chapter Highlights

- Fresh fruits and vegetables are marketed in Canada through a complex and varied array of regulated and unregulated distribution channels. Enabling legislation is in place at the national level and in each province, providing for the regulated marketing of the majority of horticultural products.
- The roles and powers of provincial marketing boards and commissions vary greatly as does their ability to influence price, quality and orderly marketing.
- There has been a rapid and continuing increase in the *per capita* consumption of vegetables over the last two decades, with an even more rapid growth in fresh vegetable consumption.
- The consumer will increasingly demand quality (which for fruits and vegetables is defined as freshness and appearance), variety, convenience, nutrition, and environmental friendliness. These consumer expectations will shape the market of the future.
- The determining factors in the purchasing decisions of distributors appear not to have changed significantly during the past decade. Distributors continue to place increasing emphasis upon fresh produce as a source of high margins and as a means of positioning their stores in the market. The importance of product quality has increased, and so have the levels of quality demanded.
- Distributors are critical of the quality of much of the domestically grown fruits and vegetables, as well as of some growers' marketing activities. Distributors see a need for improving and extending the use of centralized pre-cooling, grading and packaging in order to improve shelf life, grading and packaging consistency, and marketing coordination.
- In the regions where there are relatively few major buyers and a large number of unorganized sellers, the bargaining power of distributors increases accordingly.

1. Introduction

As part of its inquiry, the Tribunal examined the structure and systems of marketing of fresh fruits and vegetables in each region of the country. It also commissioned a study of the procurement policies of distributors.

The purpose of these studies was to gain an understanding of the present system of marketing fresh produce in Canada including the role of marketing boards; to analyze the strengths and weaknesses of the marketing structures in each region; to identify features of successful marketing; to examine the procurement policies of distributors to

determine whether or not they give a preference to imported fresh produce over domestic fresh produce, and, if so, why; and to address concerns processors may have in obtaining or expanding shelf space for their products in retail stores due to the listing practices of retailers.

Part 2 of this chapter describes the marketing of fresh and processing fruits and vegetables in Canada and the regulatory framework. Part 3 gives an overview of consumer trends. Finally, part 4 looks at the procurement policies of distributors in light of these consumer trends.

2. Marketing: Fresh Fruits and Vegetables

Fresh fruits and vegetables are marketed in Canada through a complex and varied array of regulated and unregulated distribution channels. Appendix I provides a schematic of the current distribution structure. Appendix J summarizes the type of marketing regulations that apply to specific crops in each province. Enabling legislation is in place at the national level and in each province providing for the regulated marketing of the majority of horticultural products. The extent to which these provisions are put into practice varies from one province to another and by commodity group. The effectiveness of marketing boards generally depends on grower co-operation, the nature of their responsibilities and their ability to respond to market forces.

(a) Federal

Section 95 of the *Constitution Act* gives the federal government and the provinces concurrent legislative powers over agriculture. At the federal level, the more pertinent statutes relating to horticulture include the *Agricultural Products Marketing Act* (APMA) and the *Canada Agricultural Products Act* (CAPA).

APMA provides for the marketing of agricultural products in interprovincial and export trade. It confers federal authority respecting interprovincial and export trade to provincial marketing boards or commissions. Authority is granted as a result of a request by a province and is delegated by Order in Council.

The individual boards or commissions are given authority to exercise the same powers in interprovincial or export trade, which provincial legislation permits for trade within the province. This applies to areas such as pricing, transportation including the appointment of shippers, packing, storage, marketing including the appointment of sales agents, licensing and levies on production and/or sales.

As of spring 1991, delegation of authority applied to some 20 fruit/vegetable products. Although a delegation of authority order may be in place, the provincial board or commission may not, for one reason or another, be exercising all or any of its authority under the provincial legislation. This is the case for tree fruits in British Columbia, and, to a lesser extent, asparagus and greenhouse vegetables in Ontario. Moreover, a provincial agency may exist strictly for monitoring purposes.

CAPA provides for the establishment of national standards and grades for agricultural products and for the regulation of the marketing of agricultural products in import, export and interprovincial trade. CAPA also provides for the licensing of dealers, inspection and grading, registration of establishments, and for standards governing establishments. It is administered by the Food Production and Inspection Branch of Agriculture Canada. Some provinces have similar legislation which, for the most part,

incorporates federal standards, but may be more stringent than the provisions in the federal statute, and, in some cases, may act as interprovincial trade barriers.

The importation and movement of fresh produce in Canada are specifically addressed by two regulations contained in CAPA: The Fresh Fruit and Vegetable Regulations and The Licensing and Arbitration Regulations.

The Fresh Fruit and Vegetable Regulations prescribe standards for grades, labelling, packaging and health requirements for 31 fresh fruits and vegetables produced in Canada. The regulations apply to interprovincial trade as well as imports and exports. The produce for which grade standards are in effect cannot be imported in bulk. Individuals in possession of a valid Federal Produce Licence may obtain an exemption from the bulk import prohibition for products that are going to be repacked or processed. To obtain an exemption, the receiver must contact the industry representative(s) (marketing board, co-op, or association) in the receiving province and neighbouring provinces. The industry representative(s) respond to the receiver, agreeing or disagreeing with the request for bulk imports. The receiver then submits a request to Agriculture Canada which reviews the request and the industry representative(s) response and makes the final decision in writing.

The Licensing and Arbitration Regulations are designed to promote fair and ethical trade practices in the international and interprovincial trade of fresh produce and to assure that the producer will be paid for his produce. Accordingly, everyone engaged in the trade of produce interprovincially or internationally is required to obtain a licence with Agriculture Canada. Produce is defined as any fresh fruit, fresh vegetable, nuts or edible fungi. This licence is subject to suspension or cancellation if the holder of the licence does not comply with the Regulations. A Board of Arbitration comprised of Agriculture Canada staff and industry members appointed by the Minister is established to hear complaints against holders of licences who are suspected of not complying with a set of prescribed standards dealing with the selling and purchasing of produce. An Appeal Tribunal, which can review an order or decision of the Board of Arbitration, is also established under CAPA and Regulations.

The Licensing and Arbitration Regulations have been recently amended to prohibit consignment selling in Canada. Consignment selling can disrupt the market and lower the revenue of domestic producers while lowering the quality of produce available to the consumer. Anti-consignment selling provisions require all imports and interprovincial shipments to be accompanied by a Confirmation of Sale (C.O.S.) form. This document identifies the vendor, buyer and destination, and displays the agreed upon price at which the produce is being sold. Both the vendor and buyer must sign the form. The document replaces the traditional Canada Customs declaration. The C.O.S. form also provides the information required for Agriculture Canada to implement the snap back tariff duty which was enacted as part of CUSTA.

The *Farm Products Marketing Agencies Act* (FPMA) establishes the National Farm Products Marketing Council (the Council) to supervise agencies that administer national and regional marketing plans. The FPMA allows producers of farm products, other than industrial milk and wheat, to develop national or regional marketing plans. Plans that include supply management are currently only permitted for agencies that market eggs, poultry and tobacco. Four national agencies are in place. These agencies market table eggs, turkey, chicken and broiler hatching eggs. The Council advises the Minister of Agriculture on all matters relating to the establishment, operation and performance of national marketing agencies.

The Council's recent work in the horticultural sector includes a recommendation to establish a national agency to market fresh potatoes, which was reversed on appeal to the Supreme Court. More recently, in March 1991, the Council submitted a report to the Minister of Agriculture recommending the creation of a national marketing agency, with supply management authority, for fresh apples. The Council recommended that, in order for the Agency to effectively manage the market, the marketing plan needs the participation of at least four producing provinces and growers which account for 90 percent of the production. The agency, if approved, would be the first such body to have supply management authority, on a national scale, over the production of a horticultural product. During 1991, the Minister has been reviewing and considering the proposal.

Jurisdiction respecting the marketing of horticultural products grown within a province lies with the province. All provinces have legislation which provides, to varying degrees, for the promotion, control and regulation of any one or more of the production, transportation, packing, storage and marketing of agricultural products in the province. Generally, this legislation provides for the establishment of supervisory bodies.

(b) Provincial

(i) British Columbia

In British Columbia *The Natural Products Marketing (B.C.) Act* (the Act) provides for the promotion, control of production, transportation, packing, storage and marketing of natural products in the province and for the creation of marketing boards or commissions to administer schemes (regulations) for the marketing of regulated products.

The British Columbia Marketing Board was also constituted under the Act. Its primary role is the supervision of boards and commissions, of which there are five relating to horticulture: British Columbia Vegetable Marketing Commission; British Columbia Mushroom Marketing Board; British Columbia Grape Growers' Marketing Board; British Columbia Cranberry Marketing Board; and British Columbia Tree Fruit Marketing Board.

Four of the five boards are actually performing regulatory functions. The British Columbia Tree Fruit Board does not perform regulatory functions because the tree fruit industry was deregulated in 1974. Instead, the Board acts as a service organization for producers. The Vegetable Commission, Mushroom Board and Tree Fruit Board have extra-provincial jurisdiction delegated to them under APMA.

The B.C. Vegetable Marketing Commission is by far the most important regulatory body in the province. The Commission was created in 1980 to administer the B.C. Vegetable Marketing Scheme and to replace two boards that were competing with each other in the marketing of fresh produce. The scheme authorizes the Commission to promote, control and regulate the production, transportation, packing, storage and marketing of some 17 products[1] provincially, interprovincially and for export under APMA.

The Commission is made up of growers and is funded entirely by members. It maintains a registry of growers and licenses wholesalers and processors. In consultation

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1. These regulated products include both fresh and processed goods. (See Appendix J).

with growers, it sets minimum prices for the fresh market at least once a week and negotiates prices with processors once a year. The Commission may designate an agency through which all regulated fresh products grown in a defined district of the province shall be marketed. Seven such agencies are presently operating in the province. The Commission does not exercise its authority to control production. However, it administers a system of grower delivery quotas. Individual growers may produce more than their delivery quota. If the designated sales agency for the commodity is successful in selling the additional production, then the Commission will increase the grower's quota.

All regulated products must be graded and packed in approved containers. The movement of products requires transport permits. The Commission and/or designated agencies also provide other services to its members. These include promotion, product information, statistics, lobbying and representation at the provincial and national level.

The B.C. Mushroom Marketing Board exercises its legislative authority by licensing growers, setting minimum prices periodically and by controlling marketing through two licensed sales agencies: the Fraser Valley Mushroom Growers Co-operative Association and Pacific Fresh Mushrooms Inc. The former sells fresh products and operates a cannery while the latter agency is strictly a fresh produce sales desk. Both of these agencies provide grading, distribution, marketing and promotion services to their members and represent the growers' interests on matters of general concern to the industry.

The B.C. Grape Growers Marketing Board establishes terms and conditions of contracts for wine grapes through negotiations with the Wine Council of British Columbia, which represents the wineries in the province.

The B.C. Cranberry Marketing Board issues quotas to growers and provides other services to promote the sales of the product. This Board is not authorized to collect levies from the grower members.

The B.C. Fruit Growers' Association (BCFGA) is a voluntary organization whose members account for some 80 percent of the tree fruit production in the province. Through the BCFGA, growers own and operate B.C. Tree Fruits Ltd., a selling agent, and Sun Rype Ltd., a large processor of fruit products. The packing and shipping of B.C. tree fruits is done mostly by members of the Okanagan Federated Shippers' Association, some of which are grower co-operatives. The BCFGA promotes its products, sets quality standards and represents growers on policy and regulatory matters. It also owns and operates a "test orchard" which is used for research and demonstration purposes.

In addition to the BCFGA, there are many product oriented and local co-operatives and organizations that provide a variety of services to their members. Services provided may include packing, processing, selling and promotion. For example, the B.C. Raspberry Growers' Association represents most raspberry growers in the province and manages agreements with processing co-operatives. The B.C. Blueberry Co-operative Association packages and sells fresh and processed blueberries on behalf of its members which represent some 60 percent of the industry in the province. The Fraser Valley Strawberry Growers' Association, which represents most growers in the province, negotiates prices for processing contracts under the auspices of the B.C. Vegetable Marketing Commission. There are numerous other associations and co-operatives involved in packing, processing and selling B.C. horticultural products. Two examples are the B.C. Coast Vegetable Co-operative, which packs and sells many

products, and the Western Greenhouse Growers' Co-operative Association, which specializes in the promotion, packing and selling of greenhouse tomatoes and cucumbers.

(ii) Prairies

The Alberta Marketing and Agricultural Products Act provides for the establishment of provincial marketing boards. These boards are initiated and managed by producers on behalf of producers. All boards are supervised by the provincial Agricultural Products Marketing Council. The Council's purpose is to enable, motivate and assist agricultural commodity groups to expand, develop and enhance their performance in global agriculture with a minimum of regulation and a maximum of co-operation, while recognizing the interests of the public. Council members are appointed by Alberta's Minister of Agriculture.

The Alberta vegetable industry has three marketing boards and two associations which collectively represent growers' interests. The Alberta Potato Marketing Board regulates the marketing of potatoes in the province, interprovincially as well as for export by authority of APMA, by licensing growers, setting minimum prices, collecting levies and performing other services. The Alberta Fresh Vegetable Marketing Board performs the same type of functions and services at the provincial level. The Alberta Vegetable Growers' Marketing Board is concerned with the regulation of products that are processed.

In addition to these three marketing boards, there are two associations concerned with horticultural products in the province; the Alberta Greenhouse Growers' Association, whose mandate is to facilitate the development of the greenhouse industry, and the Alberta Market Gardeners' Association, which was formed to facilitate the development of the market-gardening industry in the province.

Mushrooms and greenhouse production are not regulated. Sales of these products are generally made directly to wholesalers and retailers.

In Saskatchewan, *The Saskatchewan Agri-Food Act* (the Act) provides for the creation of marketing boards and for the Natural Products Marketing Council, which supervises all boards established under the Act. Presently, only the Saskatchewan Vegetable Marketing and Development Board is authorized to regulate horticultural products in Saskatchewan. Its mandate is limited to vegetables, of which the predominant crops are potatoes, rutabagas and cabbage. The Board is not empowered to regulate production or price. It collects a mandatory levy paid by commercial growers. The Board uses the levy to support the orderly development of the horticultural products industry in Saskatchewan.

The Saskatchewan Fruit Growers' Association promotes the general interests of fruit growers in the province and disseminates information to the industry.

In Manitoba, *The Manitoba Natural Products Marketing Act* (the Act) provides for the establishment of marketing boards and commissions. The Natural Products Marketing Commission supervises all boards established under the Act. Respecting horticultural products, The Manitoba Vegetable Producers' Marketing Board is the compulsory marketing organization for table potatoes, carrots, onions, parsnips and rutabagas. Producers of regulated products are registered and are assigned production quotas based on the quantities of product marketed on a historical basis. Unregulated crops may be sold through the Board facilities on a voluntary basis. The Board's sales

of regulated and unregulated products are made through a central order desk by marketing personnel. Prices are set by a committee of the agency and relate directly to prices of products delivered into Winnipeg from other provinces or the United States. The Board regulates interprovincial and export trade under the provisions of APMA.

Unregulated products are sold directly by producers. Among these are mushrooms, which are sold directly to wholesalers and retailers, and fruits that are grown in limited volumes and largely "pick-your-own" by consumers. Processing and seed potato contracts are negotiated through a voluntary producer-funded association known as the Keystone Vegetable Producers' Association Inc., and the chipping group negotiates with chippers separately.

(iii) Ontario

In Ontario, the enabling legislation is *The Farm Products Marketing Act* (the Act). Under this Act, the Ontario Cabinet has the power to establish marketing plans, decide on the commodities covered by a plan, constitute a local board and establish how board members are chosen. The powers given to a board by the Cabinet are set out in a regulation called "Plan."

The Ontario Farm Products Marketing Commission (the Commission) is responsible for supervising the marketing boards. This Commission, which was established pursuant to *The Ministry of Agriculture and Food Act*, is part of the Ministry of Agriculture and Food, and is composed of civil servants and outside appointees. The Commission specifies the details of a board's marketing plan and these are then set out in a regulation called "Marketing." A group of growers wanting to establish a marketing plan or board must apply to the Commission and demonstrate that they are representative of all the producers of the commodity to be regulated. The Commission will then make a recommendation to the Minister of Agriculture who in turn takes the matter to Cabinet for a decision.

The Farm Products Appeal Tribunal is a quasi-judicial body which decides on appeals of decisions of marketing boards.

Ontario marketing boards can be grouped according to whether they negotiate terms and conditions of sale (with recourse to conciliation and arbitration) or establish prices and regulate marketing practices. None of the Ontario boards control production.

There are five fruit and vegetable boards which can be classified as negotiating boards because they deal with produce sold to processors. They are the Ontario Vegetable Growers' Marketing Board (OVGMB), the Ontario Potato Growers' Marketing Board, the Ontario Asparagus Growers' Marketing Board, the Ontario Grape Growers' Marketing Board and the Ontario Berry Growers' Marketing Board.

The OVGMB is responsible for negotiating the terms and conditions of sales for 12 processing vegetable crops. These had a gross farm value of almost $115 million in 1990 compared to $86 million in 1981. There were approximately 1,400 growers contracting for these crops in 1990 compared to 2,600 in 1981. Total volume contracted went from 810,000 tons in 1981 to 931,000 tons in 1990. A decline of some 15 percent in tonnage contracted is expected for 1991, in part because of plant closures and reduced contracts. In recent years, significant progress has been made in the negotiating process as growers and processors have come to recognize the need for greater cooperation in the face of increasing international competition. Over the past few years, many of the

rigidities of the system have been removed. The board has evolved into a more flexible organization and become more responsive to the needs of both growers and processors.

The Potato Board and Asparagus Board negotiate the terms and conditions of sale for all processing potatoes and asparagus respectively; while the Grape Growers' Board negotiates processing grape prices and establishes the terms and conditions of sale by regulation. The Berry Board is not active at present.

There are five fruit and vegetable boards which aim to establish prices and regulate marketing practices for produce sold in the fresh market. They are the Ontario Fresh Potato Growers' Marketing Board, the Ontario Greenhouse Vegetable Producers' Marketing Board,[2] the Ontario Apple Marketing Commission, the Ontario Tender Fruit Producers' Marketing Board and the Ontario Fresh Grape Growers' Marketing Board. The Asparagus, Apple and Tender Fruit Boards have the power to establish prices for both the fresh and processing markets, while the other three boards only set prices for the fresh market.

Maintaining selling prices for fresh produce is but one of many difficulties faced by marketing boards in Ontario. The Potato Board had to rescind its pricing order in July 1990, when it was unable to maintain market prices because of a surplus of potatoes on the market. The Board did not regain control during that selling season. The Asparagus Board[3] has indefinitely suspended its central sales agency for fresh asparagus because of the degree to which the established price was being undermined. Also, the Greenhouse Board is experiencing considerable problems with selling under the set price. A number of studies[4] of structures, systems and marketing conducted during the 1980s have identified some weaknesses of the Ontario industry. The weaknesses identified, many of which apply equally in other provinces, include:

- fragmentation of the industry
  - the roles and responsibilities of the many players in the industry are often unclear and overlap;
- high degree of grower involvement in marketing
  - many growers take on multiple roles, from packing to sales, thereby intensifying competition among themselves rather than with imports;
- lack of marketing board enforcement authority
  - boards which provide a centralized pricing system often lack enforcement powers and are by-passed by growers;
- inconsistent use of wholesalers
  - growers tend to by-pass wholesalers and market their products directly. Wholesalers, who service both the retail and HRI trade, rely mainly on imports;

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2. The Green House Board is currently operating under financial trusteeship.
3. The Asparagus Board continues to negotiate prices for processing asparagus.
4. - Analysis of Factors Affecting Foreign vs. Domestic Sourcing of Fresh and Processed Fruits and Vegetables in the Food Service and Retail Sector, 1985, by the Canadian Horticultural Council, for Agriculture Canada.
   - Study of Current Market Structures - Systems in Ontario, 1987, by the Coopers and Lybrand Consulting Group, for the Ontario Fruit and Vegetable Growers' Association.
   - Ontario Fresh Fruit and Vegetable Industry Marketing Study, 1988, A project of the OFVGA, Agriculture Canada and the Ontario Ministry of Agriculture and Food.

- local and area competition
  - growers often compete against one another rather than collectively against imports;
- variable product quality and inspection standards
  - weather, growing conditions and post-harvest treatment of produce varies considerably; grading and inspection are inconsistent, which depresses prices and lowers quality image;
- variable packaging
  - wide variation in packaging affects product quality and product identification;
- price instability
  - for regulated crops, marketing boards lack authority to enforce prices; for unregulated crops, grower competition and lack of market information result in instability.

On the basis of analyses of marketing systems in Ontario and other jurisdictions in Canada and elsewhere, the studies found that several features of successful marketing emerge. These include:

- market driven - produce is grown for specific market requirements in terms of type, variety, timing and quality, and is packaged to meet market requirements;

- market intelligence - timely information is collected and disseminated to respond to consumer demand;

- market orientation - pricing is market responsive and market delivery is co-ordinated to adjust supply to demand and help stabilize prices;

- centralized selling - this mechanism separates growers from the selling function and allows for better quality control, packaging and storage and delivery, and more stable pricing;

- grower cooperation and education - this fosters competitiveness and increases market position of local industry.

The Tribunal has observed during its inquiry that centralized selling is a cornerstone of successful boards, co-operatives and other organizations from coast to coast. Examples include: the Western Greenhouse Growers' Co-operative in B.C.; the Manitoba Vegetable Producers' Marketing Board; Bayshore Vegetable Shippers and the Tender Fruit Producers' Marketing Board in Ontario; Projama in Quebec; Kings Produce Ltd. and Linkletter Farms in the Maritimes. These organizations invariably follow other desirable practices such as high quality produce and packaging standards, and professional marketing.

These examples amply demonstrate the need for efficient partnerships among growers in all parts of the country in order to recapture or maintain their share of the respective markets. There are tremendous opportunities for growth in domestic sales (import replacement) in most parts of the country, particularly in Ontario and Quebec, and in exports to the United States.

Delegation of authority orders to regulate interprovincial and export trade under APMA presently apply to nine horticultural products grown in Ontario.

The Ontario Fruit and Vegetable Growers' Association (OFVGA) is the umbrella organization for growers in Ontario. The OFVGA is recognized by government and industry as the official representative of the industry to national and international bodies. Its activities include lobbying and liaising with governments, promoting Ontario products through the Fresh for Flavour Foundation and Foodland Ontario, and publishing an industry newspaper called The Grower. The Association has a membership of over 11,000 growers and 45 organizations, including local growers' associations, and 9 marketing boards. Funds for the Association come from a levy on containers and from an assessment of the processing marketing boards.

The Ontario Horticultural Marketing Services (OHMS) was founded in 1988 by the OFVGA as the vehicle to provide marketing services for growers and to champion industry renewal. It evolved from the Ontario Fresh Fruit and Vegetable Industry Marketing study. For a variety of reasons, including lack of funding, this venture has had limited success.

There are also a number of local associations and co-operatives, most of which belong to the OFVGA. These associations, which are funded by voluntary levies, generally provide growers of specific products with technical and marketing information and represent their interests. Three of the larger associations are the Bradford and District Growers' Association, the Essex County Associated Growers and the Niagara Peninsula Fruit and Vegetable Growers' Association. The three main co-operatives are the Norfolk Fruit Growers' Co-op, Prince Edward County Fruit Growers' Co-operative and the Eastern Ontario Vegetable Growers' Co-op. One large organization which is not a member of the OFVGA is the Bayshore Vegetable Shippers which provides a shipping and receiving station in Burlington for 130 growers.

The Ontario Food Terminal (the Terminal), which operates under the auspices of *The Ontario Food Terminal Act*, was created to provide a central marketplace for Ontario growers and wholesalers to sell their produce. About 20 percent of the fresh produce grown in Ontario is sold at the terminal. In addition, it provides a central market for the resale of imported produce. The Terminal, which covers a 40-acre site in Etobicoke, leases land, warehouse space, offices and other facilities to producers, wholesalers and others. The operation of the terminal is financed by the revenue from leases and other service charges.

(iv) Quebec

In Quebec, the orderly marketing of agricultural, food and fish products is provided by the *Loi sur la mise en marché des produits agricoles alimentaires et de la pêche.* The law provides for the creation of the *Régie des marchés agricoles et alimentaires du Québec* (Régie).

Producers may submit a plan to the Régie to regulate the production and marketing of specific agricultural products that are produced in a designated area or are defined by a specific end use. The Régie verifies the degree of acceptability the plan has with all growers of the named products. The proposed plan includes the creation of an administrative body referred to in the legislation as an "office." The office may consist of a number of growers, or the growers may designate a syndicate or co-operative to administer the plan. Upon approval of the plan, the office sets the conditions (with the Régie's approval) for the production and marketing of the products covered by the plan. In addition, the office acts as the producers' agent in negotiations with customer representatives in the fresh and process markets. In the event that an agreement cannot

be reached, a settlement is sought through a conciliator named by the Régie. Generally, joint plans do not apply to direct sales by producers to consumers. However, the Régie is empowered to require direct sales to conform to the conditions set out in an existing joint plan covering the particular products.

Producers of horticultural products have approved five joint plans. These cover seven processing vegetables (yellow and green beans, green peas, sweet corn, cucumbers, asparagus and tomatoes), as well as apples, potatoes, blueberries and onions. At present, marketing regulations are in effect for the seven processing vegetables and juice apples.

Growers are represented at the local level by a syndicate that promotes the general interest of all growers within a geographic area. Growers of the same product within a region may be represented by a specialized syndicate. These syndicates are brought together in regional and provincial federations. L'Union des producteurs agricoles du Québec (UPA) is the confederation of the regional and provincial federations of specialized syndicates. All growers in Quebec are represented at the provincial level by the UPA and are compulsory members. The UPA is accredited by the Régie to promote the interests of all growers.

In the horticultural area, there are four specialized federations of interest: La Fédération des producteurs de pommes (apples), La Fédération des producteurs de pommes de terre (potatoes), La Fédération des producteurs de fruits et légumes du Québec (fruits and vegetables), and La Fédération des producteurs maraîchers (market vegetables). In general, the objectives of these federations are to assemble producers' syndicates, administer joint plans or assist in their management by their affiliated syndicates, study production and marketing problems, cooperate in disseminating agronomic science and technology, inform producers on the production and sale of agricultural products, monitor and assist in the development of relevant legislation and promote the public image of producers.

La Fédération des producteurs de pommes du Québec represents apple growers. However, a mechanism for regulating prices that is acceptable to the majority of growers has not been established for fresh market apples.

La Fédération des producteurs de pommes de terre du Québec represents potato growers. In 1983, growers rejected a proposal for a compulsory centralized selling agency for fresh potatoes. All potatoes are sold freely in the province. The price of processing potatoes is negotiated between growers and processors on an individual contract basis.

La Fédération des producteurs de fruits et légumes du Québec administers a joint plan and negotiates prices, terms and conditions of sale with representatives of the processing industry for seven processing vegetables.

La Fédération des producteurs maraîchers du Québec groups producers of fresh fruits and vegetables, except for apples and potatoes. Two of its member syndicates, namely, the Syndicat des producteurs d'oignons du Québec and the Syndicat des producteurs de bleuets du Québec, administer joint plans covering yellow onions and blueberries, respectively. However, no price-setting mechanisms for these joint plans have been approved to date. Nevertheless, blueberry growers have grouped themselves on a voluntary basis and sell through a single order desk.

As in other major producing regions of the country, there are many voluntary associations, cooperatives and companies active in the promotion of specific interests. For

example, the Coopérative de Pomiculteurs du Québec and the Coopérative du Mont Saint-Hilaire store apples and sell them to packers. The Société coopérative agricole du Sud de Montréal markets the products of members in the domestic and export markets as well as that of several companies owned by local growers.

A delegation of authority order to regulate interprovincial and export trade under APMA applies only to apples in Quebec.

(v) Atlantic

In New Brunswick, *The Farm Products Marketing Act* (the Act) provides for the establishment of the Farm Products Marketing Commission. Among its powers, the Commission may recommend marketing plans to the Minister of Agriculture. There are three horticultural product boards in the province: the New Brunswick Potato Agency, the New Brunswick Apple Marketing Board and the New Brunswick Greenhouse Growers Marketing Board.

The Potato Agency (the Agency) is authorized to promote, control and regulate the marketing of potatoes in New Brunswick, as well as to conduct research and educate its members respecting developments in production and marketing. The Agency is empowered to issue quotas, set prices, promote potatoes, lobby on behalf of producers and make regulations concerning disease control. Currently, the Agency negotiates prices for processing potatoes, but does not regulate or negotiate fresh market prices.

The Apple Marketing Board (the Board) licenses all growers, but is not authorized to establish prices or to control the movement of apples. The wholesale price of fresh apples is set by a duly established negotiating committee which operates apart from the Board.

The Greenhouse Growers' Marketing Board (the Greenhouse Board) establishes minimum wholesale and retail prices for bedding plants. These minimum prices are enforceable. The Greenhouse Board is empowered to set prices for horticultural products, but does not exercise the authority at this time. Prices for greenhouse vegetables are established by the wholesalers after consultation with the major growers.

Provincial or product associations, such as the New Brunswick Fruit Growers' Association, promote the general interests of horticultural product growers in the province.

Potatoes are the only product for which a delegation of authority under APMA applies in the province.

In Nova Scotia, the *Natural Products Act* (the Act) provides for the establishment of the Nova Scotia Natural Products Marketing Council (the Council). Among its powers, the Council may establish commodity boards for the purpose of carrying out any plan under the Act, establish price-negotiating agencies in connection with any plan and require registered persons engaged in the production or marketing of a natural product to pay licence fees, levies or charges provided for in the plan.

Three Boards were established dealing with horticultural products: the Nova Scotia Potato Marketing Board, the Nova Scotia Processing Pea and Bean Growers' Marketing Board and the Nova Scotia Greenhouse Vegetable Marketing Board.

The Nova Scotia Potato Marketing Board is empowered to regulate all aspects of the production and marketing of locally grown potatoes. At present, it does not exercise its regulatory authority over production. This Board sets minimum selling prices for fresh or table stock potatoes with the consensus of a pricing committee composed of growers and retailers. The minimum price is maintained on a voluntary basis and is frequently undercut by individual growers in order to compete with lower-priced potatoes from other provinces and the United States. Process market prices are unregulated. The Nova Scotia Marketing Board participates only in the pricing of chip stock, by way of acting as the growers' agent in negotiations with processors.

The Processing Pea and Bean Marketing Board negotiates the price of processing peas and beans with Cobi Foods Inc.

The Greenhouse Vegetable Marketing Board licenses all producers and collects dues. It promotes greenhouse products generally and assists growers to develop markets. It supports growers through group purchasing of materials such as containers. Presently, this Board suggests minimum selling prices to growers.

The production and marketing of fruit is not regulated in Nova Scotia. However, there are product associations that actively promote the interests of growers. The Nova Scotia Fruit Growers' Association participates in product promotion through voluntary funding by growers. The Blueberry Producers' Association of Nova Scotia exercises similar functions. Four large packers, one of which is Scotian Gold Cooperative, market approximately three quarters of the fresh apples produced in Nova Scotia.

In Prince Edward Island, *the Natural Products Marketing Act* (the Act) provides for the creation of horticultural product marketing boards and for the PEI Marketing Council, which supervises the boards created under the Act. The Potato Board is the only marketing board established under the Act. It represents all potato growers in the province. It does not regulate production or prices. The Potato Processing Council is a committee of the Potato Board that represents growers in contract negotiations with processors. One of the major activities of the Potato Board is to operate the Elite Seed Farm for the purpose of seed propagation. The Elite Seed Farm is owned by the growers. The Potato Board collects a levy from the sale of potatoes to fund this farm and for generic promotion.

In addition to the Potato Board, there are a number of associations and co-operatives that are engaged in the marketing of horticultural products. In some cases, these bodies also represent the general interests of growers. For example, the PEI Vegetable Growers Co-op (the Co-op) provides storage facilities and acts as a sales desk for some vegetables shipped to the mainland. It also provides information services and represents the views of vegetable producers. The Co-op also acts as an order desk for some fruit sales.

The Newfoundland Vegetable Marketing Board (the Board) is a producer-operated board operating under the authority of the *Newfoundland Natural Products Marketing Act.* The Board is empowered to regulate local production and prices for vegetable field crops. The predominant crops are rutabagas, cabbage, potatoes, beets and carrots. A major proportion of the Newfoundland vegetable crop is marketed by individual producers, either directly from the field or from on-farm storage facilities. This practice has contributed to the Board's limited success in regulating price and production.

3. Consumer Trends

The federal and provincial systems of marketing described above are in place to facilitate an orderly and efficient transfer of fruit and vegetable products from producers to consumers. To profitably grow and effectively market a great variety of produce across the country, growers, processors, and federal and provincial marketing agencies must be aware of consumer trends and consumption patterns. Canadian society has undergone significant transformation in the last few decades, and further major changes will occur during the 1990s; the success of the horticultural industry will depend largely on its ability to respond to these changes.

(a) Demographic and Lifestyle Trends

The post-War years in North America were characterized by high fertility rates in traditional family units (working father, children at home with the mother living in an extended household, which often included grandparents or other relatives. Such families did much of their food preparation and consumption at home and lived in basically homogeneous societies, characterized by growing economic prosperity and increased consumption. This pattern was dominant until the 1970s.

By then, fertility rates has begun to decrease, and immigration patterns began to change. Europe gradually ceased to be the prime source of immigration to Canada and the United States. The ethnic composition of the North American society changed accordingly. The massive entry of women into the labour force led to dramatic changes in lifestyle and the baby boom generation reached maturity.

Canadian society at the beginning of the 1990s, is getting older and more ethnic. It is characterized by a low birthrate, an aging population, fewer traditional family units and a growing incidence of smaller households consisting of single people or single parent families. Canadian women's participation in the labour force rose from 44 percent in 1975 to 60 percent in 1989, and the median family income in 1988 was the highest ever at $41,238.

The lifestyle changes brought about by these demographic changes include an awareness of the importance of nutrition to health as well as the related issue of environmental damage. Studies by Agriculture Canada and the National Institute of Nutrition show that more than two-thirds of Canadians are concerned about the use of chemicals and residues. A study by a private polling firm has revealed that nearly half of the Canadian population perceives waste from food packaging to be a serious environmental problem.

These trends are likely to continue. The Canadian population will grow slowly and is projected to peak in 2010 at about 28 million. Fertility rates will probably remain low and life expectancy is not likely to grow dramatically. Consequently, the domestic food market is unlikely to grow very rapidly.

(b) Consumption Trends

The horticultural industry is the beneficiary of a remarkable shift in consumer dietary habits and lifestyles. In the last quarter century, there has been a marked decrease in the total consumption of red meat, butter and eggs, and a pronounced increase of approximately 20 percent in *per capita* consumption of fresh and processed

fruit and vegetables. The increase would be even greater if one included tropical and citrus fruits.

Fresh vegetables have led the trend with an impressive increase of over 50 percent in *per capita* consumption, from 34 kg in 1967 to 47 kg in 1976, to 57 kg in 1988, followed by a 15 percent increase in the consumption of processed vegetables. Consumption of fresh and processed fruit has also increased, but much of the increase has been in tropical and citrus fruits.

The increases in the consumption of fruits and vegetables have been credited mostly to the increased availability of high quality products, better distribution systems and increased dietary consciousness. In Canada, many previously seasonal fruits and vegetables have become available all year round.

Since the dietary and lifestyle changes that underlie the increased demand for horticultural products appear to be real and durable, the industry is well positioned to benefit from these trends. The consumer of tomorrow is likely to maintain a relatively high level of consumption of fruits and vegetables in all forms. In terms of socio-economic characteristics, the consumer is likely to have less time for food preparation at home, own a microwave (current microwave ownership in North America covers 70 percent of households and is likely to exceed 90 percent by the year 2000), eat out often, be accustomed to and seek out prepared gourmet and convenience foods, and be conscious of the nutritional value of fruits and vegetables.

The consumer will increasingly demand quality (which for fruits and vegetables is defined as freshness), variety, convenience, nutrition and environmental friendliness. These consumer expectations will shape the market of the future.

(c) Challenges and Opportunities: Know your Consumers and their Expectations.

(i) Quality/Freshness

The consumer's insistence on buying higher quality products will have a particular impact on packaging. The objective will be to extend the shelf life of fresh produce and facilitate the warming up of processed products. We are likely to see an increased use of plastic pouches and containers, which are carried out and reheated in conventional or microwave ovens, more laminates and other packaging which extend shelf life.

One innovative technique is Modified Atmosphere Packaging (MAP) which alters the composition of the natural atmosphere inside a package by surrounding the food product with a specific combination of three gases (oxygen, carbon dioxide and nitrogen), thus extending the shelf life of the fresh product while avoiding the use of preservatives or having to freeze or dry the product. The United Kingdom is the current leader in this technology which is becoming very popular in Europe. In Canada, it is used on a limited basis in the food distribution system, but U.S. demand for MAP items is forecast to reach $11 billion by 1993. A recent study of consumer preferences, conducted by Agriculture Canada, concluded that a significant segment of the Canadian population would pay premium prices for MAP products.

(ii) Variety

In 1961, Canada imported fresh produce from 28 countries; in 1991, it imports produce from 60 countries. Much of the new produce consists of tropical and oriental fruits and vegetables aimed at the multicultural population of Canada. Agriculture Canada projects the growth of the ethnic food category at approximately 8 percent per year.

The growing variety of products reflects the growing variety of markets. Although population growth is slowing, the number of households is not and market fragmentation is the result. In fact, according to some analysts, "market segmentation" is the buzzword of the 21st century. It seems that there will be no single food market, but a variety of markets providing a great variety of products. Giant food conglomerates will likely compete with small niche marketers offering health foods and gourmet foods, exotic and specialty foods, snack foods, carry-out foods, and so on.

(iii) Convenience

Because two-income families are coping with extraordinary time demands, and many people live alone, time spent on preparing meals will decline. Fundamental changes in the food industry are likely to result. Analysts agree that "convenience is probably the single most significant trend that will drive the food industry," especially as it extends to include service such as take-out orders and home deliveries.

The quest for convenience is likely to increase the demand for microwavable products, prepackaged fruit and vegetable snacks in vending machines which are handy, as the practice of "grazing" (eating small servings and snacks continuously throughout the day) gains popularity to the detriment of traditional family meals.

(iv) Nutrition and Safety

The interest in nutrition, which is likely to continue, will sustain and support the food technology of the future and will provide foods engineered from proteins, vitamins, minerals and other components, simulated food, food products resulting from genetic engineering to produce higher yielding, more nutritious and less expensive varieties, new nutritious liquids (combinations of fruits and vegetables) and new sweeteners.

By the turn of the century, the aging population will consume more fruit, fibres, unprocessed grains, and low-cholesterol, low-sodium, nutritious food, grown and processed with a minimum of chemicals. It will be looking for tasty, specialty-flavoured mixtures of convenience meals.

(v) Environmental Friendliness

Popular awareness of the fact that waste from food packaging constitutes a serious environmental problem will increase the preference for returnable or biogradable containers such as, for example, aseptic packaging in paperboard containers (single serving juices) which are rapidly replacing the metal can. This trend may create conflicts with other consumer preferences for quality (MAP) and convenience packaging.

4. Procurement Policies of Distributors

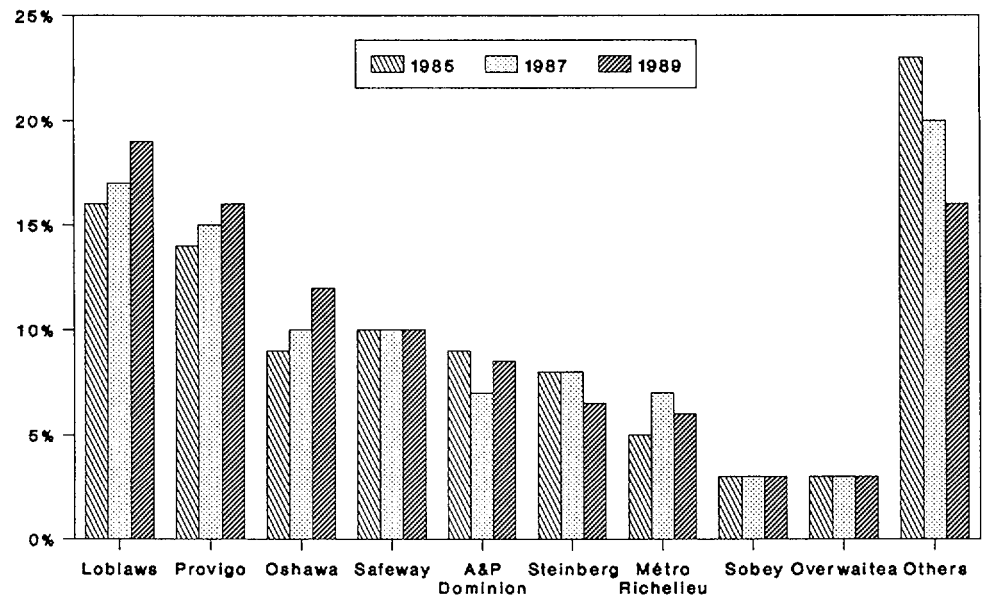
The first point of contact between growers and processors and the consumer is the distributor, whether they be one of the major grocery chains or the local green grocer. Competition for the consumer's dollar is intense within the trade and, accordingly, the distributor must be responsive to changing consumer demands and trends.

This section summarizes the results of a study carried out by Peat Marwick for the Tribunal. The study examined the factors that contribute to the purchasing decisions of distributors in Canada and the United States and an analysis of the changes in these factors in recent years. The study was based largely on extensive interviews with senior procurement personnel of some 30 large and medium-sized distributors representing more than two-thirds of the market for fresh and processed fruits and vegetables in Montréal, Toronto, Vancouver, Seattle, Buffalo and Boston, as well as on a review of previous studies which examined the competitiveness of the Canadian fruit and vegetable industry. A more detailed analysis of the procurement policies of distributors is found in the project report identified in Appendix B.

(a) Characteristics of Distributors

Canadian grocery distribution is dominated by nine major players who, together, account for over 80 percent of the $45 billion industry. These distributors have increased significantly in size and share of market during the past decade (Figure 5.1). Despite their size, after-tax profits have remained at around 1 percent of sales. Moreover, because of the very low and often negative margins applied to major brand products due to competition, distributors have increasingly placed emphasis on home brands or controlled labels, deli, meat and produce sectors to build customer loyalty and to differentiate their stores. Fresh fruits and vegetables is one of the areas that yields the highest gross margins. Quality, variety, convenience and value for money have become increasingly important to distributors in sourcing produce.

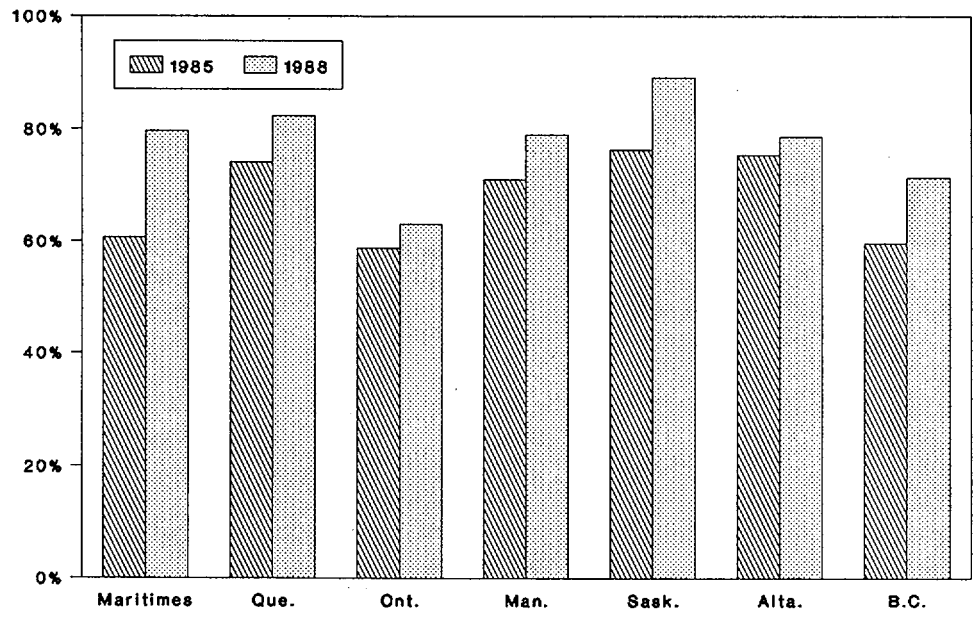
FIGURE 5.1
CANADA'S MAJOR GROCERY DISTRIBUTORS
(% Share of Food Store Dollar Sales)



Source: Peat Marwick Stevenson & Kellogg.

At the provincial level, distributor concentration is even greater, with the top four distributors frequently controlling 75 percent or more of the market as shown in Figure 5.2 (the top four distributors vary from province to province and, therefore, percentage shares do not equal those of the top four distributors shown in Figure 5.1). This concentration gives major distributors significant leverage in negotiating prices, terms and conditions of sale with suppliers, particularly the smaller ones and those who do their own marketing. This is a contentious issue with many growers and processors.

FIGURE 5.2
DISTRIBUTOR CONCENTRATION BY PROVINCE
(% Share Held by Top Four Distributors)



Source: Peat Marwick Stevenson & Kellogg.

The $26 billion food service industry, on the other hand, is highly segmented and characterized by thousands of small, independent operators. The structure of this industry has shown little change during the past decade and, if anything, it has become more fragmented. This industry also tends to deal more with middlemen in sourcing fresh and processed fruits and vegetables, whereas grocery distributors purchase more of their requirements directly from processors and growers/grower groups.

(b) Factors that Affect the Purchasing Decisions of Fresh Produce Distributors

The factors that affect the purchasing decisions of fresh fruit and vegetable distributors appear not to have changed significantly during the past decade. As distributors continue to place increasing emphasis upon fresh produce as a source of high margins and as a means of positioning their stores, so the importance of product quality has increased, as has the definition of quality. Growers therefore need to constantly improve their product quality in order to remain competitive. Quality has become a moving target. Distributors also demand reliable sources of supply. Growers must therefore be able to make binding commitments to deliver quality products on time and at agreed prices. Larger growers and those who co-ordinate their marketing efforts can generally make such commitments, but still face price competition from imports as well as from domestic growers who do their own selling at whatever price is necessary to dispose of their products.

Advertising allowances paid to distributors by growers and volume rebates have increased in recent years for fresh products. However, the value of such payments,

which is still generally less than five percent on average, does not appear to play a significant role in distributors' purchasing decisions, but can be quite significant to growers.

Distributors are generally critical of the quality of much of the domestically grown fruits and vegetables and growers' marketing activities. While some progress has been made in some areas, distributors see a need for improving and extending the use of centralized pre-cooling, grading and packaging in order to improve shelf life, grading and packaging consistency, and marketing coordination. Quebec produce received the highest level of praise by distributors, largely because of significant improvements brought about in quality, and marketing coordination and cooperation. In British Columbia, distributors are generally satisfied with growers, but are critical of the marketing boards. In Ontario, distributors feel that little progress has been made in recent years. Quality, reliability, grading, packaging and marketing are said not to have improved significantly. This may be due to the fact that, in Ontario, there is a larger number of smaller growers who do their own selling and are not providing products of consistent quality and packaging. Individually, they cannot meet the reliability of supply requirements of distributors. Moreover, while distributors seek joint promotional programs, growers and grower organizations prefer generic industry-wide activities, which are generally less expensive.

The diversity that is evident in the ranking of growers by province is also apparent among different crops. For example, B.C. hothouse products, Niagara tender fruits, Leamington tomatoes and cucumbers, and Quebec lettuce received wide acclaim from distributors. Furthermore, many of these producers were highly praised by U.S. distributors.

Promotional activities are a central part of distributors' marketing strategies. Price commitments by retailers for purposes of advertising need to be made two to three weeks before they take effect in the store. For domestic growers, this lead time can present considerable difficulties because they may not know what supplies or prices will be in several weeks. If they do not commit to a firm price and quantity, however, they may lose the sale to foreign competitors, particularly the United States, who are able and willing to make such commitments because of more favourable growing conditions, greater marketing coordination and more reliable supply forecasts. While this issue may never be resolved, there is considerable scope for growers, and grower-organizations and distributors to work together more closely, and for growers to enhance the coordination and marketing of their crops.

Distributors generally agree that today's consumers are as concerned about value for money as they were in the past, but they place greater emphasis on the quality side of the equation and less on the price side. For produce of poor quality, whatever the price, there appears to be little demand and even less of a future.

Local growers enjoy some advantages when their crops come to market provided their product quality and prices meet import competition. This preference, however, appears to be highly localized and distributors are unanimous in the view that consumers will not pay a premium for locally grown fruits and vegetables. There is relatively little consumer loyalty to local growers, except perhaps in Quebec, although this loyalty does not extend to paying higher prices for local produce. In fact, from the market statistics and the testimony of Mrs. G. Smith of Keswick, Ontario, it would appear that distributors in Ontario are willing to pay higher prices for some imported products such as lettuce, even during the local harvesting season. It appears likely that prices for local product

are kept low by a combination of unequal market power and excessive internal competition among growers. The higher degree of loyalty in Quebec is attributed to significant progress in the quality and marketing coordination of local produce.

Distributors generally have little difficulty in diverting their sourcing to local growers. This is simply a part of a regularly changing pattern of procurement. In the normal course of events, they move from area to area across the United States and in Canada, as the growing seasons reach their peak at different times of the year. Moreover, in the winter months, they shift some of their sourcing to countries such as Chile and New Zealand.

The advent of CUSTA appears to have had very little impact upon the fresh fruit and vegetable procurement policies of distributors, and few expect the situation to change in the near future. However, prices for domestically grown products are expected to decline in line with tariff reductions.

Awareness of Canadian growers in the United States is low according to distributors contacted in that country. It would appear that Canadian growers or their marketing organizations are generally not active in seeking business south of the border, perhaps because their crops are similar to those of northern states, and come to market at about the same time. Moreover, given the trend to increasing imports from the south rather than the north, few U.S. distributors see an advantage in sourcing from Canada products that are available locally at the same time, price and quality. Despite these obstacles, a few Canadian growers have made inroads into the U.S. market.

Canadian distributors are well aware that consumption of fresh fruits and vegetables has been increasing steadily over the past decade, and they consider that much of that growth has been fuelled by imports, primarily of products or varieties not grown in Canada or not available year-round. That growth, in turn, emanates from consumers' increasing demand for a growing variety of fruits and vegetables.

Some distributors in both Canada and the United States have increased their volume of business directly from shippers-growers and reduced their reliance on brokers and wholesalers. In Canada, it should be noted, most of the major distributors are both wholesalers and retailers. Other distributors, including some of the most important ones, have done the opposite by streamlining their procurement functions, reducing overheads and increasing their use of brokers, importers and wholesalers.

A potential growth opportunity may exist for Canadian growers in cleaned, peeled, sliced and ready-to-cook or ready-to-eat vegetables. These convenience products have already had a significant impact in parts of the United States and are credited with having increased overall consumption of fresh produce. Such products have yet to make a significant impression in Canada and may represent a worthwhile source of volume and profit for Canadian growers.

(c) Factors that Affect Distributors' Purchases of Processed Produce

The factors that affect distributors' purchasing decisions for processed fruit and vegetable products are virtually identical in Canada and the United States.

As for fresh fruits and vegetables, distributors' quality standards and expectations are constantly rising in the processed market. "Generic" labels are in a long-term decline while "controlled" labels, which provide higher margins, are growing. Successful

processors are those who can provide consistency of product quality and supply at competitive prices, according to distributors. Those processors may be supplying established brands and/or, increasingly, premium labels.

Volume rebates, advertising and promotional allowances, and slotting/listing fees have a dramatic impact upon the purchasing decisions of distributors of processed fruits and vegetables. The value of these payments may represent as high as 30 percent of a processors' sales revenues. Such fees and payments are generally much higher in the canned sector than in the frozen sector, reflecting the fact that the canned sector is mature and in a long-term decline, while the frozen sector continues to exhibit strong growth.

Imports of processed fruits and vegetables are much less important than in fresh produce, partly because freight charges usually militate against sourcing outside the local market. Imports of canned and frozen vegetables remain comparatively unimportant, while the majority of canned fruits is imported, primarily from California. Exports of processed fruits and vegetables, except for frozen blueberries and potatoes, and canned sweet corn, are relatively small because of higher material, packaging and processing costs in Canada.

Country of origin for processed products is not important to distributors. Overwhelmingly, they purchase wherever they judge the combination of quality and price to be most attractive. Moreover, distributors do not believe that their customers are materially concerned about the country of origin of processed fruits and vegetables.

Branded products in both countries are under pressure as distributors are rationalizing the number of processed products that they sell while, at the same time, placing more emphasis on controlled labels. For an increasing number of processors, entering the controlled-label market or expanding their presence in that market represents an important source of future sales. This may also be the most viable option for exports. Controlled labels are also constantly moving up-market.

Growers and processors who focus their attention and efforts on meeting the needs of distributor customers, and not just those of final consumers, enjoy an increasingly important advantage over the more traditional suppliers, according to distributors. As distributors seek, increasingly, to differentiate themselves from one another, the importance of customer focus and service has grown. Suppliers who are sensitive and flexible to the unique product and service needs of their major customers will enjoy a significant competitive advantage.

Many U.S. distributors believe that flexibility and responsiveness are characteristics that the smaller Canadian processors should be able to exploit to their advantage when competing with their U.S. counterparts. Conversely, many Canadian distributors are critical of domestic processors for their lack of customer focus and service.

Other factors that distributors say influence their processed fruit and vegetable procurement decisions include pack size, design, functionality and aesthetic appeal. Convenient products, microwavable or easy to open packs are also more likely to appeal to consumers and, therefore, to distributors than traditional packaging configurations. Also, more and more distributors are prepared to reward suppliers of environmentally friendly products with an increasing share of their business.

CHAPTER VI

GOVERNMENT ASSISTANCE AND SUPPORT

Chapter Highlights

- A comparative measurement of government financial assistance, using the Producer Subsidy Equivalent (PSE) method, leads to the conclusion that the overall levels of Canadian and U.S. support to their fresh vegetable sectors are comparable, while the Canadian fresh fruit sector receives a substantially higher level of support than its U.S. counterpart. Once free trade is fully implemented, assistance to the Canadian fresh sector will be quite a bit higher than that in the United States.

- Both countries provide assistance to their processing sectors mainly by means of tariffs, but the Canadian sector receives more assistance than its U.S. competitor. However, once free trade is fully implemented, assistance to the Canadian processing sector will be very low and well below that of the United States.

- Canada appears to provide relatively more assistance through "safety-net" measures, while the United States concentrates on cost-reducing programs.

1. Introduction

Government intervention occurs in every economic system. For a particular industry, the extent of the intervention can range from sporadic assistance to on-going and substantial government involvement. It can be a powerful lever in sustaining or distorting economic activity.

The Tribunal selected for examination three types of intervention which seemed likely to have a direct impact on competitiveness. They focus on financial assistance provided by different levels of government, the manner in which the government taxes the industry, and the range and application of the government's regulatory powers. This chapter attempts to assess the impact of the three types of government intervention on the workings of the horticultural industries in Canada and the United States.

2. Financial Assistance

This section presents an analysis of the financial assistance provided by the federal, provincial and state governments to the fresh fruit and vegetable sectors in Canada and in the United States, as well as the processing sectors, for the period 1986-87 to 1989-90. The analysis is based on information from a study commissioned in the spring of 1991 by the Tribunal to the consulting firm of Deloitte & Touche, entitled Financial Assistance Provided to the Fruit and Vegetable Industries in Canada and the United States. A summary table showing the states and the fruits and vegetables selected for the study can be found in Appendix K.

Financial support by municipal government is not included in the Tribunal analysis. A good examination of the municipal governments' assistance to the agricultural sector can be found in a study for Agriculture Canada by Hill and Knowlton, Business Assistance Provided by Government in the United States to the Agricultural Sector and Food Processing (1991).

The measurement of government financial assistance to the agricultural sector is a relatively new statistical exercise. Given the difficulty of comparing one form of subsidy with another, a measurement technique involving the calculation of "Producer Subsidy Equivalents" (PSEs) has been developed and widely used in the context of the Multilateral Trade Negotiations. The Tribunal's study of the financial assistance provided by federal and sub-federal levels of government uses these PSE measures.

PSEs were originally developed by the Organization for Economic Cooperation and Development (OECD) as a uniform measure of government policy intervention. PSEs measure the revenue required to compensate producers in an industry if all forms of government assistance were eliminated. Thus, in this report, an 18.8 percent PSE for potatoes in Canada (in Table 6.2) means that 18.8 percent of producers' revenues come from government programs such as tariffs, price supports and input subsidies. PSEs have typically been calculated for major commodities such as wheat, grains, sugar and dairy. PSE statistics have not normally been used, however, for minor commodities such as fruits and vegetables. In addition, very few, if any, processor equivalent PSE measures have been computed to date.

PSE measures are estimates, consequently they should be used as an indicator of the assistance provided through financial programs. "These measures take account of the usual budget outlays that finance such intervention, but also include policies that do not result in specific budget outlays such as tariffs, import quotas and permits, and variable levies. The results constitute an index of government intervention and provide a common basis for cross-country and cross-commodity comparisons" (USDA, Government Intervention in Agriculture, 1987).

Several submissions to the Tribunal noted the importance of assessing the significance of existing programs and the effectiveness of targeted versus non-targeted programs for the horticultural sector. It must be kept in mind, however, that PSEs measure government expenditures and financial assistance provided without expenditures (such as import tariffs), and not the benefits derived through the use of government programs. For example, benefits derived from research projects often outweigh the expenditures incurred. Export enhancement programs can provide long-term benefits that exceed yearly government financial contributions. Assessment of program effectiveness would require a detailed cost-benefit or a cost-effectiveness analysis. These types of analysis were outside the scope of this inquiry. Similarly, this inquiry did not have the mandate to evaluate trade-distorting measures and programs which may exist in either Canada or the United States.

The general rule for the inclusion of a government program in this study is that it should provide an operating benefit to the grower or the processor. In order to exclude very minor programs, the Tribunal decided to exclude any assistance which was less than 0.2 percent of the cash receipts for the specific commodity under analysis.

In this analysis of government intervention, government programs were classified as revenue-enhancing interventions, cost-reducing interventions or other interventions. Table 6.1 provides the classification system used for both Canadian and U.S. programs.

Table 6.1

PROGRAM CLASSIFICATION FOR PSE CALCULATIONS

Type of Intervention	Methods	Program Areas
REVENUE-ENHANCING	Border Measures	Tariffs; Non-Tariff Measures
	Price Supports	Market Orders & Regulations; Price Stabilization
	Direct Income Supports	Crop insurance; Disaster Compensation; Diversion Payment
	Demand Enhancement	Export Incentives; Market Development; Trade Assistance/ Export Promotion
COST-REDUCING	Reduced Input Costs	Raw Materials; Labour; Interest Subsidies; Irrigation
	Reduced Storage / Logistic costs	Transportation Subsidies; Storage Programs; Logistic/Handling Subsidies
	Provision of Capital / Durable Inputs	Grants; Non-operating Loan Guarantees; Equity Infusions; Capital Goods
	Improved Technology	Technology Transfer
OTHER	Research & Development	
	Grading & Inspection	
	Specific Taxation Measures	Property Tax Rebates; Fuel Tax Rebates; Sales Tax Rebates

Each of these program areas may be delivered by the federal government (e.g., tariffs), by a provincial or state government (e.g., interest subsidies and tax rebates), or through shared responsibility (e.g., crop insurance).

The process of allocating government financial outlays to specific commodities for the purpose of PSE calculations is somewhat subjective. For example, an allocation of

a generally available program[1] may suggest that program expenditures are made on some commodities that, in reality, receive no benefit whatsoever. A different allocation may produce different results. In general, in this report, revenue-enhancing measures were assigned to the individual commodity that actually received the benefit; cost-reducing expenditures were allocated on the basis of cash receipts; other interventions and the value of taxation measures were allocated across commodities, based on their share of the total value of production. In addition, because the regional coverage of assistance measures analyzed is not complete, especially in the United States, the extrapolation of state programs to the national level assumes that the states within this study are representative of all states.

3. Summary Results

Using the PSE methodology and the program classification and allocation outlined above, the results obtained indicate that, with respect to fresh commodities, the support levels for the Canadian and U.S. **vegetable** sectors are comparable. The Canadian **fruit** sector, however, receives a substantially higher degree of assistance than the U.S. **fruit** sector. When PSEs are calculated without tariffs (which will have been phased out by 1998), the support levels for both **fruits and vegetables** are greater in Canada than in the United States.

Both countries provide support through revenue-enhancing interventions, but the United States provides proportionately more support than Canada through cost-reducing programs. When intervention is examined by level of government, it appears that in Canada, the federal government provides less assistance to the **vegetable** industry, but more assistance to the **fruit** industry than its U.S. counterpart. Provincial assistance to both **fruit and vegetable** industries exceeds state assistance. Taxation measures do not play a major role in government assistance in either country, but Canada seems more generous than the United States with assistance through safety net measures.

With respect to **processed** commodities, the Canadian sector receives more assistance than its U.S. competitor - mostly by means of tariffs. Once tariffs are removed from the calculation, it appears that U.S. processors receive more government support. Tariffs constitute the major revenue-enhancing intervention which is provided at the federal level. Provincial or state assistance is minimal by comparison. Taxation measures seem to play a larger supportive role in the United States than in Canada.

4. Financial Assistance to the Fresh Fruit and Vegetable Sector

(a) Overall Level of Financial Assistance

The Canadian fresh fruit and vegetable sector at the farm level is a $1.4 billion[2] industry (1988 data). Of this total, the vegetable sector accounts for just over $1.0 billion,

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1. A generally available program is not targeted towards particular groups of agriculture producers and processors. Expenditures for a generally available program are reported in an aggregate format, for example, on an agricultural basis or on a fruit and vegetable basis. For example, the Federal Fuel Tax Rebate Program is reported on an agricultural basis; the federal research program is reported by crop category, i.e., potatoes, other vegetables, all vegetables, tree fruits, berries and all fruit. By contrast, Crop Insurance Program expenditures are reported on a commodity-specific basis.
2. All figures are in Canadian dollars.

while the fruit sector provides for about $350 million. The total value of United States fruit and vegetable production at the farm level, including citrus fruit, amounted to $25.8 billion in 1988. This is 18 times the size of the Canadian industry. In absolute terms, financial assistance to Canadian producers of the fruits and vegetables under study in Canada was estimated at $313 million on average for the period 1986-89, compared to $1,830 million for the United States.

Table 6.2 shows Canadian and U.S. PSE values for fresh fruits and vegetables by commodity. It is evident that using the full PSE figure (i.e., PSE value which includes tariffs), the level of Canadian financial assistance to fruits and vegetables is greater than the U.S. level. The support levels for the Canadian and U.S. vegetable sectors are roughly comparable - 19.8 percent versus 20.5 percent. The U.S. PSE values for some crops, such as peas and beans, are considerably greater than Canadian ones. The Canadian fruit sector, however, receives a substantially larger degree of assistance than the U.S. fruit sector - 30.2 percent compared to 10.6 percent. Unlike vegetables, Canadian PSEs for fruits are all greater than U.S. PSEs, although there are pronounced differentials in several commodities.

Table 6.2

CANADIAN AND U.S. PSE VALUES FOR FRESH FRUITS AND VEGETABLES (%)

	Full PSE		PSE Excluding Tariffs	
	Canada	United States	Canada	United States
Vegetables-Total	19.8	20.5	12.8	6.2
Potatoes	18.8	15.7	13.4	7.7
Tomatoes	23.0	26.6	14.6	5.4
Mushrooms	20.5	24.7	10.9	6.2
Sweet Corn	23.9	26.8	12.0	7.0
Carrots	26.5	10.4	20.1	5.3
Lettuce	22.7	13.2	10.4	4.7
Onions	25.2	23.3	12.6	6.4
Peas	22.8	35.1	14.7	6.4
Beans	18.8	29.4	10.7	4.7
Fruits-Total	30.2	10.6	28.6	9.1
Apples	28.5	9.0	28.5	9.0
Blueberries	10.3	9.4	10.3	9.4
Peaches	34.8	15.9	25.1	11.3
Pears	32.4	10.3	24.5	5.7
Combined Total	22.6	18.4	17.1	6.8

Percent PSE = Absolute PSE / Sum of Cash Receipts and Direct Income Transfers to producers.

Source: Deloitte & Touche and the Tribunal.

When comparing PSE values without border protection measures (i.e., tariffs), the support level for fruits and vegetables in Canada is significantly greater than in the United States. The differentials between PSE values in fruits are almost identical. The opposite is true for vegetables. In most cases, the actual value of tariffs lies somewhere between the full protection calculation and the zero protection measures.[3]

(i) Alternative Methodology

In the light of comments made to the Tribunal by industry representatives and provincial governments that PSE values are unduly influenced by the seasonality of prices, PSE measures were also calculated by a method which does not take into account cash receipts and the underlying prices for crops. The alternative method measures the total value of assistance per unit produced. The results show that the level of Canadian assistance is generally greater than the U.S. level, thus confirming the conclusions originally reached (Table 6.3).

Table 6.3

CANADIAN AND U.S PSE VALUES FOR FRESH FRUITS AND VEGETABLES

PSE per unit produced (CAN$/metric tonne)

	Full PSE		PSE Excluding Tariffs	
	Canada	United States	Canada	United States
Vegetables - Total	39.61	39.48	25.34	11.86
Potatoes	26.00	17.57	18.50	8.53
Tomatoes	52.92	48.26	32.44	9.69
Mushrooms	464.81	473.92	248.23	119.90
Sweet Corn	39.92	35.64	19.98	9.30
Carrots	42.73	26.45	32.44	13.33
Lettuce	106.44	42.47	49.11	15.16
Onions	65.11	40.96	32.63	11.26
Peas	66.89	97.30	43.22	17.37
Beans	65.51	89.28	36.86	14.42
Fruits - Total	94.97	30.66	89.13	20.64
Apples	78.12	23.84	78.12	23.84
Blueberries	144.52	83.30	144.52	83.30
Peaches	228.99	55.68	168.33	39.85
Pears	154.67	29.88	117.03	16.45

3. If a country is a large net importer of a particular commodity, it may generally be assumed that the protection derived from the tariff applied to this commodity is close to 100 percent of the amount of the tariff. On the other hand, if a country is on a full export basis and imports are insignificant, it is possible that the tariff has no effect. In any other case, the border protection lies somewhere between the full tariff protection and the no impact estimate. Detailed commodity and industry analysis would be required on a regional basis to indicate whether the border protection is 0, 25, 50, 75 or 100 percent of nominal tariff value.

(b) Types and Sources of Financial Assistance

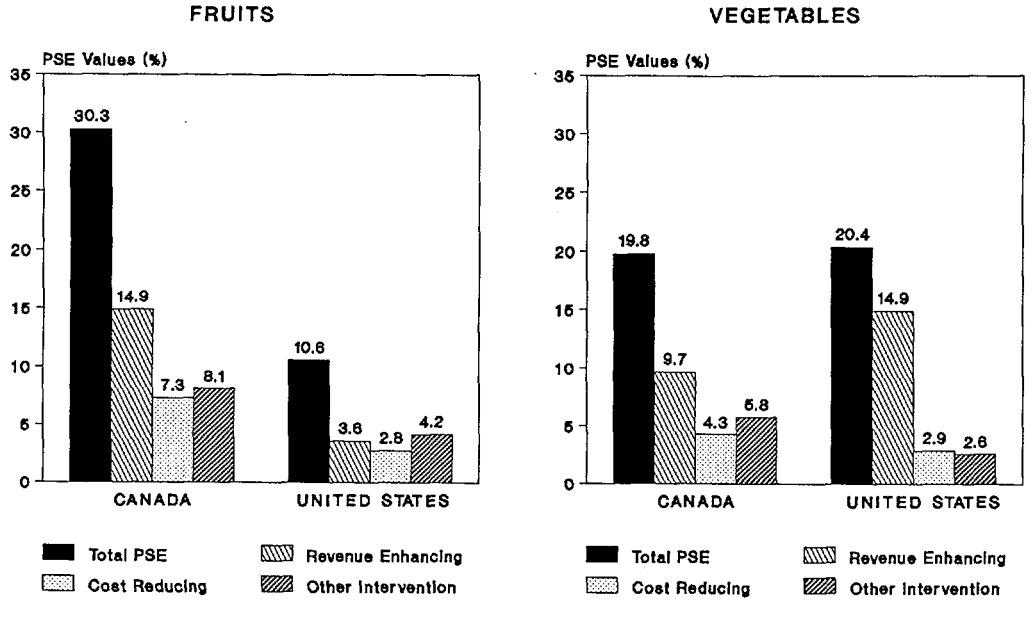
(i) Types of Interventions

A Canada-United States comparison of PSE values by classification (Figure 6.1 and Table 6.4) shows that, for vegetables, in general, the assistance through revenue-enhancing programs is smaller in Canada than in the United States. This difference can be traced back to tariffs; the United States provides more tariff assistance to its vegetable industry than Canada. For fruits, revenue-enhancing assistance is greater in Canada for all commodities, except blueberries.

As regards cost-reducing programs, the Canadian assistance, for most of the individual fruits and vegetables, exceeds the U.S. assistance, but by no more than two percentage points on average. It should be noted that many cost-reducing programs were allocated to specific products on the basis of cash receipts, and therefore are subject to a higher degree of estimation uncertainty.

As regards other interventions, such as tax provisions and Research and Development, Canada provides significantly more financial assistance through these measures than the United States, with the single exception of potatoes.

FIGURE 6.1
PSE VALUES BY CLASSIFICATION



Source: Deloitte & Touche, the Tribunal.

(ii) Contribution of Selected Interventions to PSE Measures

As illustrated in Table 6.4, the contribution of the various types of interventions to the total PSEs vary considerably between the two countries and among commodities.

In Canada, revenue-enhancing intervention makes up between 50 percent and 60 percent of all financial assistance, except for blueberries and carrots where they account for less than 30 percent. A large proportion of assistance for fruit in general is provided through stabilization payments and direct income supports. These two types of intervention account for more than 40 percent of the total PSE value for fruits (the tariffs for fruits being insignificant). For most vegetables, tariffs make up a large part of the assistance provided. Assistance through stabilization programs is also prominent. Assistance through demand enhancement programs is small compared to other revenue-enhancing intervention.

Cost-reducing measures are proportionately the least used method of financial support. They make up less than 15 percent of all assistance, except for blueberries, potatoes and carrots. The majority of such assistance is geared to reducing operating input costs through provincial programs such as interest rate rebates, fertilizer assistance and some provincial/federal agreements which lower operating costs. Assistance provided through improved technology is minimal.

The contribution of other intervention measures to total PSEs ranges from 25 percent to 40 percent, potatoes being the low exception. Assistance is provided primarily through research and development (3.8 percent PSE value for fruits and 2.0 percent PSE value for vegetables) and specific taxation measures.

In the United States, revenue-enhancing measures account for more than 50 percent of all assistance for fruits and vegetables, except for apples and blueberries. Revenue enhancements make up 73 percent of all assistance to vegetables and only 34 percent to fruits. Tariffs play a major role in the support provided to vegetables. Assistance is also provided through crop insurance indemnities and disaster assistance payments. The United States also provides a generally higher level of support than Canada through demand enhancement measures for domestic and foreign markets.

The contribution of cost-reducing measures varies among commodities. In general, it is lower for vegetables and used mostly to reduce the operating input costs in the form of interest rate subsidies on loans and through the Farm Credit Administration.

Tax measures account for nearly two-thirds of all assistance provided through other interventions, while research and development constitutes a minor share of the total PSE.

Table 6.4

COMPARISON OF PSE VALUES BY CLASSIFICATION (%)

	Canada						United States					
	Revenue Enhancing		Cost Reducing		Other Interventions		Revenue Enhancing		Cost Reducing		Other Interventions	
	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR
Vegetables - Total	9.7	49	4.3	22	5.8	29	14.9	73	2.9	14	2.6	13
Potatoes	9.0	48	5.9	31	3.9	21	9.0	57	2.5	16	4.2	27
Tomatoes	11.5	50	2.0	9	9.5	41	21.9	82	3.2	12	1.5	6
Mushrooms	10.7	52	1.3	6	8.4	41	18.5	75	2.6	11	3.6	15
Sweet Corn	14.7	62	1.6	7	7.7	32	20.9	78	2.7	10	3.3	12
Carrots	8.1	30	7.6	29	10.8	41	5.5	53	3.1	30	1.8	17
Lettuce	13.2	58	3.7	16	5.8	26	8.6	65	3.0	23	1.5	11
Onions	14.9	59	2.1	8	8.2	33	17.6	76	3.9	17	1.7	7
Peas	14.2	62	1.9	8	6.7	29	30.5	87	2.6	7	2.1	6
Beans	11.2	60	1.4	7	6.2	33	24.7	84	2.6	9	2.1	7
Fruits - Total	14.9	49	7.3	24	8.1	27	3.6	34	2.8	26	4.2	40
Apples	16.8	59	3.7	13	7.9	28	1.7	19	2.6	29	4.7	52
Blueberries	1.8	17	4.4	43	4.2	41	4.1	44	2.5	27	2.9	31
Peaches	18.4	53	2.2	6	14.1	41	8.1	51	3.0	19	4.8	30
Pears	18.8	58	2.6	8	11.0	34	5.6	54	3.2	31	1.5	15

Percent PSE = Absolute PSE / Sum of cash receipts and direct income transfers to producers.
LEV = Percent PSE level (%).
SHR = This shaded column shows the percentage share of the various areas of intervention to the total PSEs.

Figures may not add up due to rounding.

Source: Deloitte & Touche and the Tribunal.

One of the more controversial cost-reducing measures is government assistance through water subsidies. The controversy results mainly from the difficulty of estimating the value of the subsidies. Reliable estimates on water subsidies depend, to a large extent, on the choice of interest rate to value the government's interest-free loans to fund the projects, the value applied to extension of the repayment period, allowances for periods of repayment and other subjective factors.

Examples of existing estimates of water subsidies in the United States range from US$48 million in 1989 for fruits and vegetables (Deloitte & Touche, 1991) to US$85 million in 1986 for the following crops: barley, corn, cotton, oats, rice, sorghum and wheat (Moore, McGurkin, 1988) to US$97.5 million for the fiscal year 1982-83 for all crops (Arcus Consulting, 1985).

On the other hand, water resource assistance in Canada is much more limited. It has been estimated that Canada spent only about $17 million on all crops in 1985 to help its farmers adopt production-enhancing practices such as irrigation, improved drainage and land clearing. This figure, however, does not include expenditures made on multi-purpose projects with such uses as flood prevention, electricity generation, and water for cooling, recreation and irrigation. Some irrigation projects in Canada also receive public funds which are of relatively minor significance.

Several concerns were raised throughout this inquiry with reference to water subsidies and water availability, especially in California. Such subsidies are believed to exist because of the below-market pricing of irrigation water provided through federal and state projects. Many sources of water are available to the horticultural sector in California. Sources are either on-farm (on-farm wells and on-farm surface water) or off-farm through the U.S. Federal Bureau of Reclamation and State water projects, or through other off-farm sources such as private irrigation companies and other landowners. The following table (Table 6.5) shows that off-farm water provided half of California's agricultural water supply in 1988. The U.S. Bureau of Land Reclamation supplied the largest share (about 30 percent) of all the water used in agriculture while the California State Water Project supplied about 5 percent. The remainder came from other sources.

Table 6.5

DISTRIBUTION OF IRRIGATED FARMS BY PRINCIPAL SOURCE OF WATER IN CALIFORNIA (1988)

ON-FARM SUPPLY			OFF-FARM SUPPLY			
Total	**Wells**	**Surface**	**Total**	**Bureau of Reclamation**	**State Water Project**	**Other Off-Farm Surface**
49.2%	42.8%	6.4%	50.7%	30.3%	4.6%	15.8%

Source: John Hanchar, USDA, Irrigated Agriculture in the United States: State-Level Data, Jan. 1989. Table 14.

Regardless of the availability of water sources in California, several water conservation measures and reductions in water transfers have been put in place to alleviate some of the effects of the drought. Although a continuing drought may be devastating for agricultural production in the long run, the current short supply of water may have the surprising effect of increasing fruit and vegetable production. The scarcity of water may act as an incentive to divert production from water-intensive and relatively lower value crops such as cotton and rice to higher value commodities such as fruit and vegetables. In addition, the adoption of new and more efficient irrigation techniques such as drip irrigation may enhance fruit and vegetable production.

In terms of financial assistance through irrigation subsidies, the available information shows that the U.S. Federal Bureau of Reclamation[4] water subsidy for all fruits and vegetables grown on Reclamation lands in the 17 western states was almost

4. The U.S. Federal Bureau of Reclamation administers water projects in 17 western states. Federal irrigation water is priced by evaluating the future income potential of the irrigated land under each specific project. In addition, loans for water project construction costs are free of interest and their repayment terms are generally 40 years. Two components of the price-setting procedure result in subsidy: 1) setting contractual water price on the irrigators' ability to pay rather than on the actual cost of water supply, and 2) funding water project construction costs without charging interest on the loaned funds.

$54 million in 1989 (US$48 million). This amounts to a federal PSE value of 0.25 percent. On the state level, financial assistance through irrigation subsidies has a negligible PSE value.

In the PSE calculations, federal water subsidy rates are defined as the difference between contract prices (ability to pay) and the full-cost price (the actual construction and financing cost of a project) for the projects. This subsidy rate is then multiplied by the planted acreage of specific fruits and vegetables on Bureau of Reclamation lands. The PSE calculation does not account for interest forgiven on construction loans (the loans being interest free). The value of the interest-free loan can be substantial because of the long repayment period. This PSE, therefore, represents only a lower boundary of the actual federal expenditure on irrigation water.

An alternative method of assessing the implicit subsidy provided to users of agricultural water would take into account the difference between residential and agricultural water costs. A detailed analysis of cost structures for a large number of water districts would be required to effectively determine the level of subsidy. However, based on a very small sample of agricultural and urban costs for water in California, the differences in cost are considerable; residential water being 1.5 to 28 times more expensive than agricultural water. Nevertheless, when the differences are translated into PSE values, these range from 1.6 percent to 3 percent for various commodities. These figures are 8 to 10 times higher than the values obtained using the original PSE calculations method. When compared to the total PSE, however, even these higher PSE values for federal irrigation water are rather modest.

(iii) Sources of Intervention by Level of Government

A Canada-United States comparison (Table 6.6) shows that, overall, the Canadian federal government provides less assistance for vegetables than its U.S. counterpart, but more assistance for fruits, while provincial assistance exceeds state assistance for both fruits and vegetables.

In Canada, in general, the federal PSEs are larger than provincial PSEs in the area of revenue-enhancing interventions, mostly on account of tariffs and other interventions which comprise grading and inspection programs. The provincial PSEs are higher for cost-reducing interventions which include assistance through provision of capital and durable inputs. Taxation measures have a significant impact on provincial PSEs. Price support deficiency measures also have a large impact at the federal and provincial levels.

In the United States, the federal government provides generally a greater level of support than state governments through revenue-enhancing, mostly on account of tariffs, and cost-reducing interventions. Tax measures such as tax exemptions, property tax and fuel tax rebates account for a significant level of state assistance. A noticeable portion of state expenditures are state cooperative extension services (cost reduction/ improved technology). In the area of cost-reducing interventions, federal PSE values are consistently higher than state values because of greater support through provision of capital.

Table 6.6

COMPARISON OF PSE VALUES BY SOURCE (%)

	Federal-Canada	Federal-United States	Provinces-Canada	States-United States
TYPE OF INTERVENTION				
Revenue-Enhancing				
Vegetables	8.9	14.8	0.8	0.1
Fruits	9.4	3.5	5.5	0.2
Cost-Reducing				
Vegetables	1.6	2.4	2.7	0.5
Fruits	0.2	2.4	7.1	0.4
Other				
Vegetables	3.1	1.3	2.7	1.3
Fruits	4.6	1.1	3.5	3.2
Total				
Vegetables	13.6	18.6	6.2	1.9
Fruits	14.2	6.9	16.0	3.8

Source: Deloitte & Touche and the Tribunal.

(c) Tariffs as Government Intervention

Since CUSTA will eliminate all tariffs by 1998, PSEs without border measures depict a scenario similar to what could be expected in 1998 (Table 6.2).

With respect to vegetables, the removal of tariffs will cause a situation whereby the financial assistance provided by Canada is greater than in the United States. With respect to fruits, the differentials between Canadian and American PSEs remain more or less constant with or without tariffs - 19.6 percent versus 19.5 percent. In other words, current U.S. tariffs on vegetables are generally higher than Canadian tariffs.

In Canada, the PSE value for tariffs is four times higher for vegetables than for fruits (7.0 percent vs. 1.6 percent) and varies considerably between individual commodities. For some vegetables (lettuce, onions, sweet corn), tariffs are by far the most significant measure of financial assistance. In total, they account for a third of the vegetable PSE. They account for less than one tenth of the total PSE for fruits.

In the United States, PSE value for tariffs for vegetables is 10 times higher than for fruits. As such, tariffs account for nearly two-thirds of the PSE for vegetables.

(d) Taxation Measures as Government Intervention

Even though tax rebate programs are generally included in PSE calculations, it is sometimes argued that they should not be included because they are not really a financial transfer providing a benefit, but merely an efficient way to administer tax policy. Examples of such rebates include the rebate (or exemption) of the on-road fuel tax, the rebate (or exemption) of state/provincial retail sales tax, and the rebate or lower assessment associated with property taxes. Table 6.7 shows PSE values for taxation measures.

In Canada, taxation measures account for about one tenth of all financial assistance. However, they make up 40 percent of all financial assistance provided through other interventions. Provinces are the main users of taxation measures through programs such as property tax rebates and fuel tax rebates.

In the United States, taxation measures are used more extensively for fruits than for vegetables. They make up about two-thirds of the total other intervention measures. State tax measures frequently include such items as sales tax exemptions, property tax rebates and fuel tax rebates.

Table 6.7

TAXATION MEASURES AS FINANCIAL ASSISTANCE (%)

	Canada		United States	
	PSE	% Share of Total PSE	PSE	% Share of Total PSE
Vegetables	2.2	11	1.7	8
Fruits	3.2	11	3.6	34

Source: Deloitte & Touche and the Tribunal.

Taxation measures do not play a major role in government financial assistance. When taxation measures are removed from the calculation of PSEs, the following overall PSE values result (Table 6.8):

Table 6.8

FINANCIAL ASSISTANCE WITH AND WITHOUT TAX MEASURES

	Canada		United States	
	PSE	PSE without Tax Measures	PSE	PSE without Tax Measures
	%	%	%	%
Vegetables	19.8	17.6	20.5	18.8
Fruits	30.2	26.9	10.6	7.0
Combined Total	22.6	18.9	18.4	16.2

Source: Deloitte & Touche and the Tribunal.

(e) Safety Net Measures

"Safety net" programs are designed to protect against economic losses resulting from natural hazards and/or poor market conditions. They include, among other programs, crop insurance, disaster compensation and price stabilization. Canada provides a larger proportion of its financial assistance through safety net measures than the United States (Table 6.9).

In Canada, safety net measures for fruits have a higher PSE value than for vegetables and account for more than 40 percent of total PSE. The contribution of financial assistance through safety net measures to total PSE varies among fruits. They account for a significant portion of the revenue-enhancing intervention for fruits (85 percent) and to a lesser extent for vegetables (21 percent).

In the United States, safety net measures for fruits and vegetables have a low PSE value. Like Canada, the proportion of financial assistance through these measures varies among the specific fruits. The proportion of financial support through safety net measures to total financial assistance is less than 4 percent for all vegetables under study.

Table 6.9

SAFETY NET MEASURES AS FINANCIAL ASSISTANCE (%)

	Canada		United States	
	PSE	% Share of Total PSE	PSE	% Share of Total PSE
Vegetables	2.1	10.6	0.5	2.4
Fruits	12.7	42.0	1.4	12.9
Combined Total	5.0	22.2	0.7	3.7

Source: Deloitte & Touche and the Tribunal.

5. Financial Assistance to the Processed Fruit and Vegetable Sector

(a) Overall Level of Financial Assistance

The Canadian fruit and vegetable processing sector is a $3.6 billion sector in terms of value of shipments (1989 data). It also provides $1.6 billion in value added.[5] The largest component is vegetable processing. The U.S. fruit and vegetable processing industry had a total shipment value of $29 billion in 1987, with value added estimated at $13.4 billion. The largest sector of this industry is canned vegetables. Financial assistance to processors in Canada was estimated at $367 million on average for the period under study, compared to $1,649 million for the United States.

Table 6.10 shows Canadian and U.S. processor equivalent PSE values with and without tariffs. Using the full PSE value, it is evident that financial assistance is greater in Canada than in the United States. Both processing sectors receive the majority of support through tariffs. When tariffs are removed, the Canadian processor equivalent PSE levels are low (0.4 percent) and U.S. processors receive somewhat more support than Canadian processors. The processing sector will lose a large portion of its support once tariffs are removed through CUSTA. The U.S. PSE values are greater than the corresponding Canadian PSE values for individual commodities. The differentials between the level of assistance for all processed products (2.3 percentage points) are not as large as the differentials found for fresh fruits and vegetables.

Table 6.10

PROCESSOR-EQUIVALENT PSE VALUES FOR CANADA AND THE UNITED STATES (%)

	Full PSE		PSE without Tariffs	
	Canada	United States	Canada	United States
Vegetables	24.6	15.6	0.5	2.9
Fruits	24.7	10.6	0.1	2.6
Combined Total	24.6	13.7	0.4	2.7

Percent PSE = Absolute PSE / Value added.

Source: Deloitte & Touche.

5. The processor equivalent PSE measures assistance relative to value added. Value added refers to the contribution of the processing activity. It is defined as the difference between the value of shipments and the costs of materials (i.e., raw product, other supplies and utilities). Essentially, the contribution of labour and capital is the value added.

(b) Types and Sources of Financial Assistance

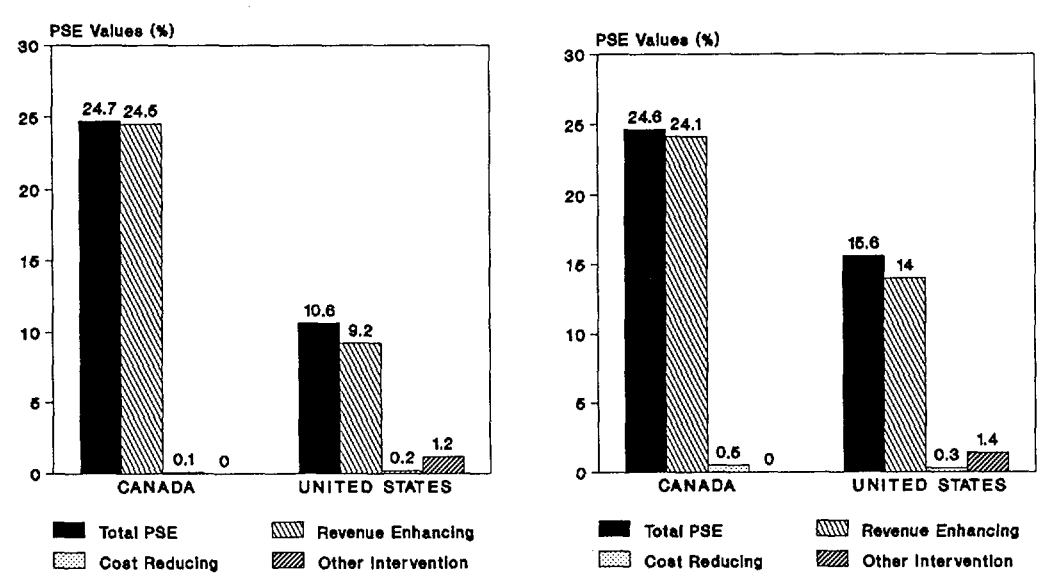
(i) Types of Intervention

Figure 6.2 illustrates the comparable levels of support provided in Canada and in the United States.

In Canada, by far, most financial assistance is provided through revenue-enhancing intervention (Table 6.11). Cost-reducing intervention has a significantly lower PSE value. Other intervention measures are essentially negligible (i.e., below the cutoff threshold). Revenue-enhancing programs other than tariffs (e.g., demand enhancement/trade assistance) are insignificant. Examples of cost-reducing interventions include capital assistance and grants to improve technology or expand operations. Overall assistance in this area is less than one-half a percent of the value added in the sector. Table 6.11 shows also the contribution of the various types of intervention to the total PSE.

In the United States, the situation is similar: revenue-enhancing intervention provides the most financial assistance. Cost-reducing interventions have a lower PSE. However, assistance through other interventions is larger than for cost-reducing. Tariffs and demand enhancement programs (Food and Nutrition Service programs) make up the bulk of revenue-enhancing interventions. Assistance to reduce operating input costs, such as job training programs, accounts for the largest portion of cost-reducing interventions, while specific tax measures, such as tax exemption on foreign sales corporations, contribute largely to other interventions.

FIGURE 6.2
PROCESSOR EQUIVALENT PSE BY CLASSIFICATION



Source: Deloitte & Touche, the Tribunal.

Table 6.11

COMPARISON OF PROCESSOR-EQUIVALENT PSE VALUES BY CLASSIFICATION (%)

	Canada						United States					
	Revenue Enhancing		Cost Reducing		Other Interventions		Revenue Enhancing		Cost Reducing		Other Interventions	
	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR	LEV	SHR
Vegetables	24.1	98	0.5	2	0	nil	14.0	89	0.3	2	1.4	9
Fruits	24.5	99	0.1	<1	0	nil	9.1	87	0.2	2	1.2	11
Combined Total	24.2	98.5	0.4	1.5	0	nil	12.1	88.3	0.3	2.1	1.3	9.5

Percent PSE = Absolute PSE / Value added.
LEV = Percent PSE level (%).
SHR = This shaded column shows the percentage share of the various areas of intervention to the total PSEs.

Figures may not add up due to rounding.

Source: Deloitte & Touche and the Tribunal.

(ii) Sources of Intervention by Levels of Government

In Canada, because of the importance of tariffs, financial assistance provided to the fruit and vegetable processing industry by the provinces is negligible. Even with tariffs removed, provincial assistance accounts for less than half a percent of total assistance. Provinces provide support exclusively through cost-reducing intervention to canned, but not frozen fruit and vegetables.

In the United States, the federal government also contributes the largest portion of financial assistance. State assistance is minimal, but greater than the assistance provided by the provinces, accounting for 1 percent of total assistance on average, and is provided mainly through tax measures.

(c) Tariffs as Government Intervention

As demonstrated in Table 6.10, Canadian and U.S. processors receive a high level of assistance through tariffs. Canadian processors receive significantly more support than their American counterparts. Once tariffs are removed, U.S. processors will benefit from a higher level of support due mainly to demand-enhancing programs and some international business tax exemptions.

Almost all Canadian assistance to processors is in the form of tariff protection measures[6] (Table 6.11). Tariffs make up 98.5 percent of all financial assistance and are applied exclusively by the federal government.

In the United States, most of the assistance provided to processors is also in the form of tariffs. They account for 80 percent of all financial assistance and a 10 percent PSE.

(d) Taxation Measures as Government Intervention

In Canada, other intervention measures, such as research and development and tax rebates, have not been identified as a significant means of financial assistance for processors, either at the federal or provincial level.

In the United States, however, assistance through taxation measures has a PSE value of 1.2 percent and accounts for 93 percent of all assistance provided by other interventions. Tax measures are predominantly used by the various states and account for 90 percent of all state financial assistance, the remainder consisting of assistance through grading and inspection and through cost-reducing measures.

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6. As we noted earlier, the existence of an import tariff does not necessarily imply that border protection is provided to growers or processors. For some products, where a country is a large net importer, it can safely be assumed that the tariff protection is close to 100 percent. In other cases, the border protection is somewhere between the no tariff impact and the full impact estimate. For example, the 23.4 percent PSE estimate for frozen fruits and vegetables is derived using full tariff protection potential. But, given that Canada is a net exporter of frozen product and a net importer of other processed commodities, the effective border protection provided to the frozen sector is probably about 7 percent. This estimate is based on a qualitative/quantitative assessment of protection and export shipments, and assumes a 25 percent border protection. At the 7 percent level, the Canadian PSE estimate would be lower than the American estimate, similar to a situation where no tariff protection was in place.

CHAPTER VII

TAXES, TARIFFS AND REGULATIONS

Chapter Highlights

- A comparison of the relative tax treatment of a range of horticultural establishments in Canada and in the United States leads to the conclusion that the burden is quite similar in both countries.

- The major tax reforms in Canada and the United States in the mid-1980s have served to bring the two taxation systems closer in line with one another for agricultural producers.

- Canadian seasonal tariffs for fresh produce have specific Most-Favoured-Nation (MFN) rates of duty in the range of 3¢ to 10¢ per kg with a minimum *ad valorem* ranging from 10 to 15 percent. Tariff rates applied on U.S. imports of fresh produce, which will be phased out under CUSTA by 1998, will be 60 percent of MFN rates during 1992. To date, the industry has not found the "snapback tariff" to be an effective mechanism.

- Processed vegetables from MFN countries are subject to an *ad valorem* duty in the range of 15 percent to 20 percent, while most processed fruit products are subject to *ad valorem* rates ranging from 0 percent to 15 percent. As with fresh produce, tariff rates on processed vegetable imports from the United States will be 60 percent of MFN rates in 1992.

- There are important differences in the approach to the use and registration of pesticides in the two countries, with significant disadvantages to Canadian farmers in terms of availability and cost.

- The Canadian industry complains in particular that produce treated with pesticides not available in Canada is admitted into Canada provided it passes certain residue tests. The industry argues that it should have access to the same pesticides provided produce grown with them meets the same residue tests.

- Minor differences exist between Canada and the United States regarding quality requirements and inspection procedures for fresh fruits and vegetables. Irritants and delays have arisen at selected border points, particularly with respect to exported Canadian potatoes, which have been rigidly inspected by officials of USDA as well as the U.S. Food and Drug Administration (USFDA).

- Packaging and labelling regulations for processed products are quite different in Canada and the United States, and the Canadian industry is concerned about the allegedly inconsistent enforcement of Canadian regulations on U.S. imports. The Canada-U.S. Working Groups, set up under CUSTA, have made little progress in removing non-tariff barriers to fruit and vegetable trade between the two countries.

1. Introduction

Taxation is a key variable in assessing the competitiveness of an industry vis-à-vis its foreign trading partners. Representatives of the horticultural industries communicated to the Tribunal their concerns about selected tax provisions in Canada as they affect the competitive position of their industry vis-à-vis the United States. These concerns included: write-off of investments in new technology, investment tax credits and the goods and services tax.

2. Taxation: A Comparison of Relevant Provisions in Canada and the United States[1]

Comparing taxation systems in any two countries is an onerous task because of the multitude and complexity of provisions, as well as frequent changes in these. Nevertheless, the insights gained by such comparisons make them well worth the effort.

The main features of the Canadian and U.S. tax systems were compared for both fruit and vegetable growers and processors. A range of simulations, specified by the Tribunal, was run by the Department of Finance to compare the tax burden of different types of Canadian growers to the burden they would assume if they were operating in the United States.

A review of these comparisons suggests, contrary to popular perceptions, that the tax burden is quite similar in both countries. The major tax reforms, which took place in Canada and in the United States during the mid-80s, have served to bring the two systems closer in line with one another. This conclusion is similar to the one expressed by the Task Force on Competitiveness in the Agri-Food Industry in its Final Report to Ministers of Agriculture in 1990.

(a) Personal Income Tax Provisions

Since approximately 90 percent of horticultural farmers in Canada are not incorporated, and they are responsible for about 60 percent of gross horticultural farm income, the relative structures of the Canadian and U.S. personal income tax systems are important to the understanding of the competitive position of the industry in the two countries.

In addition to the general personal income tax provisions available to all individuals, horticultural producers in Canada and the United States benefit from special tax measures available only to farmers. This comparison will focus on the main federal tax provisions affecting farmers.

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1. In preparing this section, the Tribunal sought the assistance of the Tax Policy and Legislation Branch of the Department of Finance. However, the judgments are those of the Tribunal.

Table 7.1 summarizes the similarities and differences of the various personal income tax provisions specifically designed for farmers in Canada and the United States, as discussed above. Discussion of each provision follows.

Table 7.1

SUMMARY OF SPECIFIC FARM MEASURES IN CANADA AND THE UNITED STATES

Measure	Canada	United States
Cash-Accounting Method	available	available
Flexible Inventory Valuation	available	not available
Restricted Farm Losses	claim limited to net farm loss of $15,000	no comparable measure
Pre-Production Expenses	some capital expenses are deductible	some capital expenses are deductible
Depreciation	optional declining balance	mandatory double-declining balance with switch to straight line option
Capital Gains	75 percent taxable and first $500,000 of gain exempted	fully taxable and no exemption
Mortgage Interests	generally not deductible	fully deductible

(i) Methods of Computing Income

In both Canada and the United States, farmers may use either the **cash** or **accrual** method to calculate their farming income. Under the cash method, farmers report income in the year it is received and deduct expenses in the year they are paid. Under the accrual method, farmers report income in the fiscal period it is earned, regardless of when the payment is received, and deduct expenses in the fiscal year they are incurred, whether or not they have been paid in that period.

The cash-accounting method is preferable to the accrual-accounting method for many growers because it gives them the flexibility to shift expenses to high-income years and/or shift receipts to high expense years. For example, cash accounting could significantly reduce the tax base in a period when farms are growing and expenditures are greater than receipts.

(ii) Flexible Inventory Valuation

Introduced as part of the tax reform of 1987, this measure allows Canadian farmers to include in their income an amount up to the fair market value of all inventory on hand at year end. However, the amount included in the income of any given year must be deducted from the income of the following year.

When used in conjunction with the cash-accounting method, this provision allows farmers to make full use of non-refundable credits, maximize their contributions to the Canada or Quebec Pension Plans and to Registered Retirement Saving Plans (RRSPs) and reduce the fluctuations of income from year to year. This method is likely to benefit farmers who produce storable crops such as potatoes.

No comparable measure is available in the United States.

(iii) Restricted Farm Losses

When the expenses of a farm business exceed the income for the year, the result is a net operating loss. In both Canada and the United States, the tax systems limit the amount of net operating loss that farmers can claim.

In both countries, the deductibility of farming losses is denied to hobby farmers. In Canada, losses from a farming operation are not deductible if the taxpayer's operation cannot be considered a business, and this is determined by means of a test of reasonable expectation of profits. In the United States, if profits occur in any three of five consecutive years ending with the tax year in question, the farm activity is presumed not to be a hobby, and individuals may then deduct the full amount of their farm losses against other income.

In addition to the above, farm losses may be restricted in Canada if the farming activity is not the chief source of income. This situation may arise when a taxpayer is engaged on a full-time basis in another occupation. The maximum amount that a farmer can then claim against other sources of income in a year is $8,750 (equivalent to a net farm loss of $15,000). Any farm loss in excess of this limit is the taxpayer's "restricted farm loss" for the year. This loss, however, can be deducted against net farm income of the three preceding or the 10 subsequent years.

Restrictions on farm losses are necessary to ensure that the tax advantages of cash basis accounting and other measures available to farmers are of benefit mainly to "full-time" farmers.

(iv) Pre-Production Expenses

In Canada, farmers may deduct certain capital expenses immediately rather than capitalize them. Deductible capital expenses include costs for clearing and levelling land as well as the cost of installing a land drainage system. The benefits are twofold: first, there is an immediate, full deduction of the expense, and second, there is no recovery of the depreciation when the property is sold. Although the cost of planting trees, shrubs and other similar plants is not deductible or capitalized in Canada, the cost of replacing them is generally deductible.

In the United States, land clearing expenditures must be capitalized. Other capital expenditures incurred by the farmers may be deductible, but with some restrictions. For instance, land drainage costs are deductible only if the system is part of a water conservation plan and the deduction is partly recoverable if the property is sold within nine years. Also, tree-planting expenses are deductible only if the trees will generate revenue within two years. Otherwise, tree-planting expenses are capitalized.

(v) Depreciation

In both Canada and the United States, farmers may recover, through annual deductions, the cost of depreciable properties. In Canada, depreciable properties are grouped together in classes by types of assets, while in the United States, they are grouped by economic life, which is determined by the intended use.

Generally, in Canada, the depreciation is calculated on a declining balance while in the United States, it is first calculated on an accelerated declining balance, switching to straight-line depreciation as soon as it becomes favourable to the taxpayer.

Table 7.2 shows the declining-balance depreciation rates for assets of particular interest to farmers engaged in horticulture.

Another difference between the Canadian and U.S. depreciation provisions is that, in Canada, the taxpayer may elect not to claim any or only part of the capital cost allowance in a given year, whereas depreciation is mandatory in the United States. This measure favours Canadian farmers because they may choose to forego the capital cost allowance if they do not have taxable income. Conversely, U.S. farmers must claim depreciation whether or not they have a taxable income, which could result in lost deductions if the farmer is unable to use his losses carried forward within the prescribed time. In the United States, non-capital losses may be carried back three years and forward 15 years, which may be seen as compensating for mandatory depreciation.

(vi) Capital Gains

When a capital property is sold, and the sale price is higher than the original cost of the property plus any other costs such as renovations or improvements, the result is a capital gain.

In the United States, the capital gain exclusion was eliminated by the tax reform of 1986. In Canada, only 75 percent of the capital gain is included in taxable income. Moreover, while all Canadian taxpayers are exempted from paying taxes on their first $100,000 of capital gains, Canadian farmers benefit from an additional $400,000 exemption on qualified farm property. There is no comparable measure in the United States.

Furthermore, whereas in Canada, the capital gain resulting from the sale of a principal residence is not subject to taxation, in the United States, it is.

Table 7.2

DEPRECIATION RATES

Assets	Canada	United States
Farm Machinery		30.9 percent[2]
- tillage equipment	20 percent	(7-year recovery period)
- tractors and combines	30 percent	
Cars and Trucks	30 percent	42.7 percent (5-year recovery period)
Farm Buildings	4 percent	8.6 percent (20-year recovery period)
Greenhouses	10 percent	21.8 percent (10-year recovery period)
Climate-controlled Fresh Fruit and Vegetable Warehouse	20 percent	21.8 percent (10-year recovery period)

(vii) Mortgage Interests

In Canada, interest paid on farm property, other than a principal residence, is deductible. However, if the farm house is used for business purposes, farmers may deduct a portion of the mortgage interest expenses. In the United States, mortgage interest charges incurred with respect to both farm property and a principal residence are fully deductible.

(viii) Impact of Personal Income Tax on Horticultural Farmers

Tax simulations were conducted with the assistance of the Tax Policy and Legislation Branch of the Department of Finance to compare the tax burden of a Canadian taxpayer operating a horticultural farm in Canada to the tax burden that this taxpayer would assume in the United States.

The gross farm income and expenses of these typical farmers are based on unpublished Statistics Canada data. Three types of horticultural farmers were compared: an apple producer, a potato grower and a vegetable grower. Apple producers were further broken down into three gross farm income groups, $50,000, $100,000 and $200,000, while the potato and vegetable growers were broken down into gross farm income groups of $100,000, $200,000 and $500,000. In addition, typical cases were examined using the mortgage interest on the entire farm property reported in the Statistics Canada data and also under the assumption of no mortgage. In total, eighteen cases were compared. It was assumed that each farmer had $20,000 of non-farm income, which is consistent with Income Taxation Statistics.

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2. Equivalent declining balance rate, whose present value is similar to the present value of the 7-year recovery period rates.

The tax calculations were based on the personal tax rates in British Columbia and the State of Washington for the apple producer, in Prince Edward Island and Maine for the potato grower, and in Ontario and the State of New York for the vegetable grower. They included estimates of social security taxes (excluding government-sponsored health plans). The taxpayer was assumed to be married, with a non-working spouse and two dependent children. The tax simulation took into account the mortgage interest and property tax deductibility in the United States and differences in the depreciation rates in the two countries.

Table 7.3 shows that the personal income and social security tax burden on small and medium size horticultural farmers is generally lower in Canada than in the United States, while it is higher for larger producers. This difference reflects the higher progressivity of the Canadian tax system vis-à-vis the U.S. system, rather than differences in the specific tax provisions provided to horticultural farmers.

Table 7.3

COMPARISON OF CANADA/UNITED STATES PERSONAL INCOME TAX, INCLUDING SOCIAL SECURITY

Taxes Paid, By Farm Type and Income

($000)

	Canada				United States			
Income -	50	100	200	500	50	100	200	500
With Farm Property Mortgage								
Apple Producer	2.1	3.3	7.9		3.5	5.4	10.0	
Potato Grower		6.2	6.4	26.7		6.7	7.7	23.5
Vegetable Grower		3.0	4.4	27.3		4.1	6.3	25.3
Without Farm Property Mortgage								
Apple Producer	3.7	7.2	17.1		5.1	8.4	15.3	
Potato Grower		8.6	11.1	38.2		8.3	10.8	32.6
Vegetable Grower		6.2	10.8	39.0		7.2	11.5	35.4

(b) Income Tax Provisions Affecting Processors

In Canada, income generated from the processing of fruits and vegetables benefits from the preferential tax treatment generally provided for manufacturing and processing activities. Such treatment is made up of a depreciation rate which represents an acceleration over economic depreciation, a lower tax rate on profits and, in certain regions, investment tax credits.

The U.S. tax system contains fewer specific preferences for manufacturing. The general system, however, provides accelerated depreciation and an export incentive.

Where U.S. corporations extensively avail themselves of tax preferences, their value will be reduced by the Alternative Minimum Tax.

(i) Determination of Taxable Income

Processing activities are not eligible for the cash method of accounting in Canada or in the United States even if undertaken by an integrated horticultural corporation.

(ii) Depreciation

The specific provisions for the tax depreciation of fruit and vegetable processing assets are different in Canada and the United States. Table 7.4 describes the main features of depreciation in both countries.

Table 7.4

COMPARISON OF DEPRECIATION FEATURES

	Canada	United States
Depreciation Method	Declining balance	Double-declining balance with switch to straight line
Applicable rate	25 percent	30.9 percent[3] (7-year recovery period)
Mandatory deduction	No	Yes
Recapture of accelerated deduction	None	Possible in same year if Alternative Minimum Tax is applicable
Recapture of excess depreciation on disposition	Yes (if no assets left in class)	Yes
Applicable conventions	Half-year and available for use	Half-year and put in service
Options	No	Yes (straight line)

In Canada, the write-off rate is 25 percent declining balance. The write-off rate is slightly faster in the United States, as it roughly corresponds to a 31 percent declining balance rate.

Additional incentives are provided by provinces such as Quebec and Ontario with respect to the write-off of manufacturing and processing equipment. In Quebec, such equipment acquired after May 21, 1988, is eligible for a 100 percent write-off in the year of the acquisition. In addition to the regular capital cost allowance, Ontario allows a special deduction (30 percent in 1991) for such equipment in the year of acquisition. This

3. Equivalent declining balance rate, whose present value is similar to the present value of the 7-year recovery period rates.

special deduction is, however, expected to be discontinued in 1992, except for pollution control equipment.

(iii) Loss Provisions

In Canada and the United States, general loss provisions apply with no particular restriction to the processors of fruits and vegetables. For non-capital losses in Canada, the carry-back period is 3 years and the carry-forward period is 7 years. In the United States, the only difference is a carry-forward period of 15 years.

(iv) Tax Rates

The Canadian federal tax rate of 28 percent applies to all corporations, with the exception of Canadian-controlled private corporations which benefit from the small business rate of 12 percent on their first $200,000 of active business income. Canada also has a 3 percent surtax which effectively increases the general rate to 28.84 percent.

The U.S. federal corporate income tax rate is 34 percent; graduated rates ranging from 15 percent to 34 percent apply to the first $100,000 of taxable income. The benefit of the lower rates is recaptured through an additional 5 percent tax rate which applies on taxable income between $100,000 and $335,000 and which eliminates the benefits of the graduated rates for corporations with taxable income in excess of $335,000.

The Canadian small business rate provides an advantage to all corporations since, unlike in the United States, no attempt is made to recapture its benefits for large corporations. The Canadian rate is among the lowest in the world.

In Canada, income derived from the processing of fruits and vegetables benefits from the lower rate applying to Canadian manufacturing and processing income which is 23 percent, compared to the general rate of 28 percent. The rate reduction applies to domestic and export sales, but does not apply to income eligible for the small business deduction.

The U.S. tax law does not provide a preferential tax rate on income from manufacturing and processing activities. However, it offers a rate reduction on the export-related earnings of certain corporations referred to as foreign sales corporations. To qualify as a foreign sales corporation, a company must meet strict requirements, i.e., it must be incorporated outside the United States, have no more than 25 shareholders and must perform directly, or on a contract basis, all activities connected with the sale of export goods. A portion of the foreign sales or commission income of a foreign sales corporation is exempt from U.S. tax provided it is derived from the foreign presence and economic activity of the foreign sales corporation. Distributions from foreign sales corporations to their shareholders are not subject to further tax in the hands of shareholders.

The applicable provincial/state statutory corporate income tax rate must be added to the federal rate in order to complete the tax rate picture. For Canadian provinces, these rates range from 0 percent (three-year tax holiday for new businesses in Quebec) to 17 percent (Newfoundland rate on income not eligible for the small business deduction). U.S. rates range from 0 percent (no corporate income tax in the State of Washington) to 12 percent (Iowa's top rate).

As shown in Table 7.5, the result of comparing the combined federal/ provincial and federal/state income tax rates varies greatly according to the location and size of the fruit and vegetable processing corporation. While small corporations benefit from lower tax rates in Canada, large corporations in New Brunswick and Ontario have lower rates than in nearby states.

Table 7.5

CORPORATE TAX RATES[1] FOR FRUIT AND VEGETABLE PROCESSING CORPORATIONS

Areas of Comparison	Canada		United States	
	Small[2] (%)	Large[3] (%)	Small[4] (%)	Large (%)
New-Brunswick / Maine	21.8	39.8	27.7	39.9
Ontario / New York	22.8	38.3	30.3	40.8
British Columbia / Washington	21.8	37.8	22.3	34.0

1. Rates provided are combined federal/provincial or federal/state corporate income tax rates. Combined U.S. rates take into account that state taxes are deductible for federal corporate income tax purposes. Rates are effective as of July 1, 1991.
2. Small business rates apply to first $200,000 of Canadian-controlled private corporations' business income.
3. Top rates for processing activities.
4. Small business rate is average weighted rate applying to first $100,000 of business income. United States and Maine have graduated rates.

(v) Investment Tax Credits

Investment tax credits were generally phased out in Canada as part of the tax reform of 1987. They are, however, available for investments in designated regions and for research and development expenditures.

Investment tax credits on qualifying machinery and equipment are available at the rate of 15 percent if the assets are primarily used in the Atlantic and Gaspé regions. This could be valuable to the fruit and vegetable processing firms since the whole of the provinces, such as Prince Edward Island, New Brunswick and Nova Scotia, are included in the Atlantic region. A credit of 30 percent is also available for other designated disadvantaged northern regions in Canada.

These investment tax credits, where applicable, are a distinct advantage for Canadian corporations over their U.S. counterparts. In the United States, investment tax credits were repealed as part of the tax reform of 1986.

(vi) Large Corporations Tax and Alternative Minimum Tax

Canada has a Large Corporations Tax on the corporation's equity and debt. This tax is credited against the corporation's surtax. All taxable Canadian corporations are liable for the Large Corporations Tax at an annual rate of 0.2 percent of their taxable capital employed in Canada **in excess of $10 million**. A deduction is allowed for eligible investments in other corporations to avoid the double taxation of the same capital. The Large Corporations Tax affects mostly large and capital intensive corporations paying little or no income tax.

All U.S. corporations are potentially liable for the Alternative Minimum Tax which can add to a corporation's regular income tax liability. The Alternative Minimum Tax rate is 20 percent and a $40,000 maximum exemption is available. Taxable income for Alternative Minimum Tax purposes is computed by adding to taxable income specified adjustments and "tax preference" items such as accelerated depreciation and the difference between book income and income for Alternative Minimum Tax purposes. The excess of Alternative Minimum Tax over the regular income tax liability of the corporation is afterward creditable against the regular tax liability of the corporation. The Alternative Minimum Tax affects primarily public corporations making extensive use of tax preferences.

(c) Other Federal Taxes

(i) Goods and Services Tax (GST)

On January 1, 1991, the Manufacturer's Sales Tax was replaced by a GST and an input tax credit mechanism. This form of value-added tax is levied on and collected from all businesses as goods move from primary producers and processors to wholesalers, retailers and finally consumers. Under the GST, businesses pay tax on their sales and claim a credit for any tax paid on their purchases. However, virtually all sales of farm products are zero-rated under the GST, including sales of fruits and vegetables. This means that farmers do not charge any tax on their sales and, like other businesses, they claim input tax credits for all GST paid on their input purchases.

One of the major concerns expressed by the horticulture industry relates to the cashflow requirements under the GST. In order to alleviate the potential cashflow problems in the farming industry, the federal government has provided a prescribed list of tax-free items commonly purchased by farmers.

Items of particular interest to farmers engaged in horticulture which are included in this prescribed list are mechanical fruit or vegetable pickers or harvesters, large tractors, tillage equipment, seeders and planters, field sprayers or dusters. The GST legislation also zero-rates agricultural pesticides when purchased in quantities costing $500 or more, seeds when purchased in a quantity larger than that ordinarily sold to consumers, and fertilizer when purchased in bulk quantities of at least 500 kg.

It is estimated that, on average, farmers will not pay GST on approximately 75 percent of their business inputs. However, for horticultural farmers operating small businesses, the exempt equipment and exempt quantities are often larger than those which they would normally purchase. Any GST which farmers do pay on inputs into their farming operations (e.g., items such as pick-up trucks, fuel, plants and seedlings, crop dusting services, hydro, accounting fees, etc.) can be recovered by claiming input tax credits.

Overall, it is estimated that the replacement of the Manufacturer's Sales Tax with the GST will result in approximately $250 million of economic benefits annually to the total farm sector in Canada.

No sales tax is imposed at the federal level in the United States.

(ii) Federal Excise Taxes on Gasoline and Diesel Fuel

In Canada, the federal excise tax is 8.5¢/L on gasoline and 4¢/L on diesel fuel. Since January 1, 1990, there have been no excise tax rebates on gasoline and diesel fuel purchased by farmers for off-highway purposes.

In the United States, the federal excise tax is 4.3¢/L on gasoline and 6.2¢/L on diesel fuel. However, the excise tax paid on the purchase of motive fuels used for off-highway purposes by farmers is fully rebated.

3. Tariff Structures

Horticultural products crossing the border may be subject to tariffs. A comparison of the Canadian and U.S. customs tariff rates points to differences in treatment of imports from each other's home market as well as those originating in other countries qualifying for the MFN tariff treatment. However, the differences in product definitions used and methods employed by the two countries in establishing duty rates make direct comparisons difficult. Appendix L contains an illustrative list of fresh and processed fruits and vegetables and their various customs tariff treatment by each country.

(a) Canadian Tariffs

Canada's current tariff regime respecting imports of horticultural products is largely the consequence of the implementation of the former Tariff Board's recommendations in 1979 and CUSTA in 1989. Fresh fruits and vegetables imported into Canada are subject, depending upon the product, time of year and purpose of importation, to various types of tariffs - seasonal, year-round and processing. Processed fruits and vegetables are subject to similar tariff levels and rates of duty; they are not, however, subject to seasonal tariffs. The rates of duty may be free, *ad valorem*, specific or a combination of *ad valorem* and specific.

(b) Seasonal Tariffs

Canada applies seasonal tariffs on imports of most fresh products grown in Canada, in order to provide a degree of protection to domestic producers during their harvest season while allowing Canadian consumers duty-free access to imported products when domestic production is not available. This seasonal protection was originally introduced to assist domestic growers who must bring a perishable product to market during a brief harvest season that begins after the commencement of the U.S. harvest season. The application of tariffs at the beginning of a season is of particular importance to growers because the first produce available from a harvest typically commands a premium price.

Seasonal tariffs are applied, depending on the product, for a maximum duration of between six to forty-six weeks a year. They may come into effect at different times in each three Canadian customs zones. The division into three customs zones, Western, Central (Ontario east of Thunder Bay and Quebec) and Eastern is in recognition of the

differences in climate and market between the three zones. Most seasonal tariffs are applied only once a year, although tariffs for some goods that are harvested at different times (greenhouse and field crops) can be applied twice annually.

Seasonal tariffs are normally a combination of a specific duty and a minimum *ad valorem* duty. The inclusion of the minimum *ad valorem* rate is to counteract the erosive effects over time that inflation places on specific duties. Many products subject to seasonal tariffs are also subject to a small packaging surcharge if the product is imported in packages weighing less than 2.27 kg. This surcharge provides a measure of protection to both packagers and growers in Canada.

When not subject to seasonal rates of duty, imports of fresh fruits and vegetables are generally duty free.

(c) Year-Round Tariffs

Processed products are subject to year-round tariffs only and most are dutiable at *ad valorem* rates. These rates vary from a current low of 2.1 percent for orange juice to 15.7 percent for frozen asparagus, but generally range between 7 percent and 10.5 percent under CUSTA. Certain fresh fruits and vegetables that are grown or stored throughout the year, such as mushrooms, potatoes and onions, are generally subject to year-round tariff rates as well.

(d) Processing Tariffs

Several fresh fruits and vegetables imported for processing are subject to a duty rate which is normally lower than the rate applied to in-season imports, but, for some products, the rate is the same or higher. Tomatoes, broccoli and peaches, for example, have a lower duty assessed when imported for processing purposes than when imported in season for fresh consumption; while the same rate of duty is applied on mushrooms and strawberries imported for processing or imported in season for consumption. Unsweetened orange concentrates imported to make citrus fruit juices are duty free, but orange juice, if imported in a ready-to-consume state, is dutiable. Processors are eligible for a remission of duty paid on imports of fresh fruits and vegetables for processing in circumstances when they have contracted with domestic growers for their annual requirements, but are unable to obtain the quantities required from domestic growers.

(e) United States Tariffs

While the U.S. tariff structure is similar to that of Canada, there are some notable differences. Although the two countries both use the Harmonized System (HS) classification, they employ different product definitions to give effect to different tariff protection requirements. For example, the United States does not impose a separate tariff rate on produce imported for processing, nor does it impose an additional rate of duty on produce imported in small packages. Fresh fruits and vegetables are generally subject to specific rates (i.e., ¢/kg) while *ad valorem* rates are usually applied to imports of processed products. The United States has substantially fewer duty-free rates than Canada. In addition, the United States employs seasonal tariff rates with some, but fewer, off-season rates being duty free than those in Canada.

(f) CUSTA

Under CUSTA, all dutiable rates covering imports of fresh and processed fruits and vegetables from the United States into Canada will decline by 10 percent per year until reduced to zero on January 1, 1998. For example, prior to the implementation of CUSTA, tomatoes imported for processing were dutiable at 2.21¢/kg with a 15 percent minimum. While this rate is still applied to imports from MFN eligible countries, imports from the United States in 1991 are dutiable at 1.5¢/kg, but not less that 10.5 percent.

Similarly, under CUSTA, dutiable rates covering imports from Canada into the United States will decline by 10 percent per year until reduced to zero in 1998. There are a few exceptions where rates of duty are coming down more quickly; however, they occur for products which Canada does not grow or does not export in any significant quantity.

(g) Snapback Tariff Provisions

Fresh fruit and vegetable growers were accorded special treatment under Article 702 of CUSTA to mitigate the potentially disruptive effects of the elimination of tariff protection. For a period of twenty years, Canada and the United States can temporarily reintroduce tariff rates on fresh fruits and vegetables in certain circumstances and after consultations with the other government. The temporary duty can be applied when: 1) for five working days, the import price of the particular fruit or vegetable is below 90 percent of the average monthly price of the preceding five years, excluding the years with the highest and the lowest average monthly import price; and 2) the planted acreage in the importing country is no higher than the average acreage of the particular fruit or vegetable over the preceding five years, excluding the years with the highest and lowest acreage.

Snapback duty can be applied on a national or regional basis, but only once per product per year, or for 180 days, and must be removed when the price of the imports, during a five-day period, increases to above 90 percent of the five-year average. The snapback duty cannot be higher than the current MFN rate of duty and must be removed when the representative F.O.B. shipping point price of the exporting party exceeds 90 percent of the five-year monthly average price for five consecutive working days or after 180 days.

Since the inception of the snapback mechanism, tariffs have been reimposed on three occasions: on imports of fresh asparagus in 1990, and on fresh peaches and fresh tomatoes in 1991. As an example, in 1990, the 90 percent average import price for asparagus was 79.6¢/lb. Import prices for the month of May 1990 ranged from 30¢/lb. to 55.9¢/lb. As a result of the snapback tariff provisions, the tariff was increased from the 12 percent CUSTA rate to the 15 percent MFN rate for a net increase in price of 1.7¢/lb. Given the range of the import prices, the snapback provided very little increase in the level of import protection for asparagus.

In the September hearing, the CHC indicated that the snapback approach was not an effective mechanism. In particular, the snapback cannot usually be implemented quickly enough to provide protection at the crucial time for the marketing of the domestic crop. As well, the administrative cost of collecting the data is significant. Moreover, in situations where there is a sharp decline in import prices due to an above-average crop in the United States, or due to "distress pricing" by U.S. sellers, the snapback may provide virtually no additional protection for domestic growers. To

provide protection for the domestic industry in cases of a sharp decline in import prices, the CHC recommended that the special surtax mechanism under Article XIX of GATT be used. While the CHC was aware of the historical difficulties surrounding the use of this mechanism for horticultural trade between Canada and the United States, it suggested that the surtax be seriously considered for inclusion in NAFTA as a mechanism to protect growers in all countries whenever import prices drop sharply below recent annual levels.

4. Regulations

The regulatory framework governing the production and sale of fresh and processed fruits and vegetables is immense and complex. The production, transportation, sale and consumption of fruits and vegetables is governed, to a greater or lesser degree, by regulations from the time they are planted to the time the finished product is consumed in fresh or processed form. Regulations govern the entire life cycle of consumable commodities, from seed to sale to consumption. U.S. fruits and vegetables are subject to a very similar network of regulatory requirements, although many of them differ from their Canadian counterparts, as will be demonstrated below.

The existence of a large number of regulations and regulatory procedures can in itself be a major barrier to trade, especially if pronounced regulatory differences exist between trading partners and if countries choose to enforce their regulations in an arbitrary or malicious manner. Such actions can create impediments affecting trading efficiency and competitiveness.

The regulations applicable to fruits and vegetables in Canada which are most likely to affect competitiveness can be grouped in three broad categories:

Health and safety-related regulations which aim to ensure that the fresh and processed products we consume are not injurious to our health because they are diseased or contain unhealthy additives;

Quality and grade standard regulations for fresh produce, which aim to ensure that only produce of acceptable quality is offered to the consumer and which allow the consumer to evaluate the produce based on recognized criteria; and

Packaging and labelling regulations which aim to ensure that information concerning a product is correct with respect to quality, quantity, composition, content and safety; standard containers permit easy value comparisons between brands and grades.

The government departments most involved in the administration of the horticulture regulatory framework are Agriculture Canada, Health and Welfare Canada, the Department of Consumer and Corporate Affairs, the Department of Fisheries and Oceans and Environment Canada. Some regulatory functions are shared among several departments.

Government departments and agencies of trading partners, especially the United States, also administer regulations which affect Canada's fruit and vegetable industry. Most important are the USDA and the USFDA. They affect greatly the two-way trade in fresh and processed fruits and vegetables.

(a) Health and Safety Regulations

(i) The Issue

In the area of health and safety regulations, the most frequently voiced concern before the Tribunal was the issue of pesticides. In the course of public hearings and presentations before the Tribunal, it became evident that the Canadian horticultural industry believes that the availability and cost of pesticides in Canada is a significant factor in the international competitiveness of its industry. Its concern is that the recommendations of the Pesticides Registration Review Team are not likely to respond quickly and effectively to the immediate problems. There is also resentment over the perceived leniency of border controls vis-à-vis imported U.S. produce as well as over U.S. authorities holding Canadian shipments at the border for an undue time when they verify residue levels. Finally, the industry and some provinces, such as Manitoba, are concerned that the harmonization of standards with the United States, mandated by CUSTA, is not progressing well.

Specifically, the industry identified five problem areas which are having a negative impact on the competitive position of the Canadian industry:

1. The limited availability of pesticide products in Canada compared with the large number of pesticide products available in the United States at more competitive prices;

2. The presence and consumption in Canada of U.S. food products that were produced with pesticides not available in Canada, which enter the country provided they meet certain residue level tests (which, it was alleged in testimony before the Tribunal, are haphazardly applied at the border by Canadian inspectors);

3. The higher cost of many pesticide products in Canada over that in the United States;

4. The complexity and rigidity of the Canadian system of pesticide registration which does not take into account grower competitiveness factors, in addition to such other necessary considerations as consumer, operator and environmental protection; and

5. The general reluctance of multinational pesticide-producing companies to register their products in Canada, given the necessity of complying with uniquely Canadian registration requirements, as well as the small Canadian market which is unlikely to bring returns sufficient to justify the time and cost of separate registration in Canada.

(ii) Canada - U.S. Legislative and Regulatory Contrasts and Comparisons.

A staff research paper on pesticides, discussed at the June 1991 hearings, documented the various legislative, regulatory procedural and administrative differences in the process of registration and use of pesticides in Canada and the United States. Certification of pesticides for use through a process of registration is compulsory in both countries, and the legislative and regulatory instruments are very similar on both sides of the border. So are data requirements and procedures for the registration of pesticide products. However, some attitudinal differences (regarding the role of the state in

protecting the public), which are reflected in operational procedures, do affect the competitive position of the Canadian industry.

For example, in the United States, the potential economic benefit of a new pesticide product is duly considered in the process of registration, while in Canada the major emphasis is on the health and safety aspect and the protection of the public. Canadian regulations indeed do appear to be more demanding, and the registration process more expensive and time consuming than in the United States. The Canadian pesticide manufacturing industry is small, and its research and development capability quite limited by comparison with such U.S. giants as Monsanto, Bayer or Shell. It may not be able to keep up with the demands of an exacting regulatory system.

The process of pesticide registration in the United States is centralized in the hands of the Environmental Protection Agency (EPA) which regulates the timing and scheduling of the registration review process, oversees the work of all other departments responsible for data review and serves as a focal point for all registration-related scientific and public information activities.

In Canada, the Pesticides Directorate of Agriculture Canada has an overall responsibility for the coordination of the process of registration. The Directorate works with other branches of the Department (the Research Branch, the Agricultural Inspection Directorate and the Laboratory Services Division) as well as with several line departments, namely:

* **Health and Welfare Canada** (the Food Directorate and Environmental Health Directorate), which evaluates toxicology and occupational exposure data and is responsible for setting maximum residue limits in or on foods under *The Food and Drugs Act*;

* **Environment Canada** (Conservation and Protection Branch and the Canadian Wildlife Service), which evaluates environmental fate and toxicology data, and assesses the impact of the product on wildlife;

* **Department of Fisheries and Oceans** (Fish Habitat Management Branch), which evaluates environmental risk data as it affects fishery resources; and

* **Forestry Canada**, which advises on the impact of products under investigation on forestry environment.

The process of registration is a consultative one. The Pesticides Directorate has no authority to oversee the time frame or the manner in which the other departments carry out the evaluation of those aspect of the review which fall under their jurisdiction. To overcome this difficulty, interdepartmental protocols have been signed and standing committees created to better coordinate the process of registration. Nevertheless, the scattering of authority among several departments has been blamed for the complexity of the Canadian data review process.

Data requirements for registration are also quite similar in Canada and the United States, but additional testing is required in Canada as to the efficacy of products, which is not required at all in the United States, as well as for exposure studies, which are very detailed in Canada and only required in the United States for products believed to cause tumours. Moreover, Canada requires that many environmental studies be done under Canadian conditions, which makes some of the U.S. data unacceptable to Canadian

authorities even when it relates to conditions in the northern states. U.S. data which are more than 10 years old are likely to be considered outdated.

These Canadian requirements, although well intentioned and scientifically valid, create an additional burden of proof on the pesticide producers and make the Canadian registration process more complicated than the U.S. one. On the other hand, the U.S. testing and certification process, while seemingly simpler, is sometimes viewed by the Canadian regulators as inadequate because of the cursory attention it gives to some factors considered important in Canada, and sometimes even fraudulent, as evidenced by at least two scandals involving falsification of data by private U.S. laboratories.

(iii) The Question of Price and Availability

There is a great disparity in the number of active ingredients available in Canada and the United States (500 versus 800) as well as in the number of end products containing active ingredients (6,600 formulations vs. 25,000). Many U.S. formulations have been developed specifically for tropical climates and are not needed in Canada, but many which are needed are not easily available.

Before 1977, Canadian farmers could import U.S. products if these products were also registered for the same application in Canada. The change of policy revoking this privilege was designed to stimulate the domestic pesticide manufacturing industry. With the import of U.S. products not allowed, Canadian farmers have been dependent on a limited supply of products registered and sold in Canada, many of which are considerably more expensive than their U.S. counterparts.

It is practically impossible to establish to what extent Canadian products are more or less expensive than U.S. products because the unit price does not tell the whole story. The cost of pesticides must be considered in a context of a farming establishment and take into account the variety of factors and circumstances under which pesticides are purchased and used. No such comparative study was attempted, though testimony in public hearings suggested that price differences of at least 15 percent were common and that pesticides could amount to up to 5 percent of the total product cost. The anecdotal evidence suggests that when urgent need arises, Canadian farmers are dependent on the limited number of pesticides registered in Canada, some of which are high-priced. They have practically no quick and easy access to foreign products sold at more competitive prices.

The problem of availability is even more serious than that of price. The most dramatic evidence of this came from testimony in public hearings from Niagara and Okanagan fruit producers who stated that the pear *Psylla* insect was leading quickly to the elimination of the Canadian pear industry, because the Amitraz pesticide used to control the problem in the United States was not available here. Furthermore, the Tribunal received some evidence in public hearings that more and more producers may resort to illegal imports of pesticides from the United States.

The problem of availability is compounded by the declining rate of introduction of new pesticides in Canada and the United States. This decline is due mostly to the high cost of research and development, and the necessity to meet stringent regulatory guidelines. In July 1991, it was announced that Monsanto Co. of St. Louis received EPA permission to market a weedkiller containing the company's first new agricultural chemical in nearly 20 years. Increasingly, most of the Canadian and much of the

U.S. effort is directed towards the development of new formulations of existing active ingredients.

(iv) The Question of Tolerance Levels and Border Controls

In addition to the discrepancy in the number of pesticides registered in the two countries, there is a difference in tolerance levels. Tolerance is the maximum residue limit which is allowed for pesticides that are not registered. In Canada, a general regulation permits residues of up to 0.1 parts per million. In the United States, the official tolerance level is 0. In practice, the real tolerance is the limit of detection of the analytical method employed. Some pesticides (especially the newest products) may leave residues that are not easily detected by routine testing methods.

Canadian horticulture producers point out that produce containing pesticides registered in the United States, but not in Canada, is being offered to Canadian consumers without meeting Canadian tolerance levels. Because of the great volume of shipments crossing the border, some illegal shipments are not caught; some are tested, but not rigorously enough to detect illegal product; and some are tested by load sampling, allowing individual items in the shipment to come in with higher levels. The industry is concerned that this situation undermines the Canadian regulatory system and provides unfair competition to Canadian producers who must comply with Canadian regulations. More generally, the industry questions why Canadian producers cannot use the same pesticides as their U.S. counterparts who export to Canada, provided they meet the same residue tests.

(v) The Pesticide Registration Review Team

Because of the great variety of pesticide-related concerns in Canada, in the spring of 1989, the Minister of Agriculture appointed the Pesticide Registration Review Team with a mandate to provide recommendations to improve the federal pesticide regulatory system. The 12-member team, chaired by Ghislain Leblond, reported in December 1990. Its recommendations, if implemented, would:

- centralize the registration process under one independent agency reporting to the Minister of Health and Welfare;

- improve public input and participation in the registration process by guaranteeing extensive public access to information and by creating an advisory council representing the various stakeholders;

- streamline the registration process by making transparent registration criteria and fixing deadlines for decision making; and

- improve harmonization with the United States by providing vehicles for speedier registration in Canada of products already registered in the United States and by allowing imports to Canada of U.S. pesticides if the retail price of similar products in Canada were considerably higher.

The Government is now considering the Review Team's recommendations, many of which would require new legislation. The horticulture industry, which was represented on the Leblond inquiry, is sympathetic to the Review Team's long-term objectives, but also concerned that, nearly a year later, the Government has not indicated whether or how it proposes to implement the recommendations. Moreover, these

recommendation do not address the immediate problem of the backlog of products waiting to be registered, the high price in Canada of selected products and the lack of access to the cheaper U.S. products.

(b) Marketing Regulatory Issues: Quality and Grade Standard Regulations for Fresh Fruits and Vegetables

The marketing of fresh fruits and vegetables is a precarious business because the produce is delicate, highly perishable and often transported over long distances. The horticultural industry has complained in testimony to the Tribunal about the treatment by U.S. authorities of Canadian shipments bound for the U.S. market. It quoted examples of unnecessary delays of shipments at the border, and allegedly superfluous and rigid inspections, which can cause produce deterioration and result in the loss of credibility of Canadian suppliers who may lose valuable contracts south of the border.

On U.S. exports to Canada, the Canadian industry has communicated to the Tribunal its concern with the inconsistent and lax enforcement of the Canadian regulations on U.S. imports, which apparently allows the entry into Canada of U.S. products which are not in compliance with the Canadian regulations. This leniency is seen as undermining the integrity of the Canadian regulatory framework as well as giving U.S. importers an unfair competitive advantage. More effective monitoring of imports for compliance with Canadian standards is also supported by several provinces.

Under the provisions of the *Canada Agricultural Products Act* (1988), 31 fresh fruits and vegetables produced in, or imported to, Canada are subject to the Fresh Fruits and Vegetables Regulations and the Licensing and Arbitration Regulations which prescribe standards for grades, labelling, packaging and health requirements which, among other things, contain prohibitions against the interprovincial and international dealing in all produce on consignment-selling basis. All fresh produce in consumer packages is also subject to the provisions of the *Consumer Packaging and Labelling Act and Regulations.* These regulations are administered by Agriculture Canada and Consumer and Corporate Affairs Canada.

In the United States, similar regulations under the authority of the *Agricultural Marketing Act* (which regulates grades) and the *Perishable Agricultural Commodities Act* (which regulates, among other things, the licensing of produce dealers and brokers as well as dispute settlement) are administered by the USDA. Labelling and health quality regulations are administered by the USFDA, while packaging regulations are governed by state law.

U.S. exports to Canada of the 31 regulated fruits and vegetables must meet the Canadian packaging, labelling and grade requirements. USDA inspectors are empowered by Agriculture Canada to inspect Canada-bound loads for some 26 items specified in the Fresh Fruit and Vegetable Regulations. Conversely, Agriculture Canada inspectors are empowered by the USDA to inspect U.S. bound loads of produce regulated under the U.S. Marketing Orders (potatoes, onions and field tomatoes) for their import requirements.

Overall, Canadian and U.S. philosophies, goals and objectives of the inspection programs are quite similar. However, the actual requirements and inspection procedures vary:

* **Grade Standards**: In Canada, standards are mandatory for the regulated commodities and produce can be monitored at any time to ensure compliance; U.S. standards are voluntary (except for the restrictions under *The Export Apple and Pear Act*, special import requirements for potatoes, onions and field tomatoes, and relevant provisions of Marketing Orders). The Canadian approach specifies a certain level of uniformity in grading and puts imports on the same footing as the domestic produce. In so doing, it eliminates low quality produce, guarantees the growers a certain return and offers consumers a reliable and consistent product. The U.S. approach leaves the judgement to the consumer.

* **Anti-consignment selling**: Produce moving interprovincially or internationally must be sold for a confirmed price within 24 hours of its being shipped from the point of production; for international loads, the C.O.S. form (which includes price) must be presented to Canadian Customs;

* **Ministerial Exemptions**: If Canadian supply of a specific product cannot be secured, the Minister is empowered to exempt imports from the Canadian packaging and grade requirements;

* **Packaging**: Canada requires the use of standard containers to promote uniformity for the domestic and foreign produce and to assist consumers; the United States has some packaging requirements, but most of them do not apply to products exported by Canada; most packaging decisions are left to the producers and the consumers;

* **Labelling**: Canadian regulations require metric markings and bilingual labels on all consumer packages, and specify that the grade and country of origin are to be listed in close proximity on the label.

It can be stated with a reasonable degree of certainly that, by and large, the bilateral system of inspection and certification of fruits and vegetables crossing the border has worked fairly well. However, specific regulatory imbalances and inequities sometimes arise and can negatively affect Canadian producers struggling to become or remain competitive in the North American market. At times, Canadian producers particularly resent the entry into Canada of cheap U.S. produce under Ministerial bulk authorization which, however necessary, enables U.S. producers under specific exemptions to bypass Canadian regulatory requirements for packaging and labelling.

With respect to Canadian exports to the United States, a particular complication can arise because of the existence of U.S. marketing orders, which are legal mechanisms under which regulations issued by authority of the Secretary of Agriculture (under the *Agricultural Marketing Agreement Act* of 1937) are binding on all handlers of specified food products in a defined geographical area. The main purpose of marketing orders is to establish orderly marketing conditions and achieve parity prices for farmers. These objectives can be accomplished by setting quality standards, introducing quantity controls, establishing standards for containers, etc. For commodities covered by a marketing order containing grade, size, quality or maturity control provision, the imports of these commodities must meet the same or comparable standards. This import requirement applies to a foreign country like Canada, but does not apply to U.S. produce brought in from other U.S. states. Presently, import requirements are in effect for several commodities exported to the United States, including potatoes, onions and tomatoes.

Marketing orders can and do restrict Canadian imports into specified areas of the United States where they are in effect. The minimum import requirements they contain are perceived as import restrictions because they do not apply to the interstate movement of produce within the United States. Several submissions to the Tribunal made references to the marketing orders and also raised the question of the compatibility of the marketing orders system with the relevant provisions of GATT.

Problems have also arisen in isolated areas due to a particular set of regional circumstances. At the New Brunswick-Maine border, for example, Canadian potato shipments have been subject to inspections by the USDA, acting under the authority of the Farm Bill, to verify that the quality of Canadian potatoes meets U.S. import requirements. In 1990-91, approximately one quarter of Canadian loads were found by U.S. authorities to be in non-compliance.

The Prince Edward Island Potato Board, which has kept records on the number of Canadian potato shipments passing and failing the U.S. inspection, has obtained similar results. The passing rate ranged from a low of 59 percent in 1988-89 to a high of 82 percent in 1986-87, for an average of approximately 73 percent out of a total of 2,040 loads over a period of four years included in the calculation. Shippers failing the inspection had a choice of returning to Canada or continuing to their U.S. destination for a full inspection, which was subsequently passed by 38 percent of those who chose the second option. Since all 2,040 loads would have been approved for shipment to the United States by Canadian inspectors, either some Canadian produce had not been properly graded in Canada or the U.S. inspections were too severe.

In addition to the USDA inspections, the USFDA is also empowered to test shipments for chemical residues under the authority of the *Food and Drugs Act*. Because no USFDA inspectors are available at such crucial border points as New Brunswick-Maine and Manitoba-Minnesota, all Canadian import information must be couriered to the respective regional offices (Boston or Minneapolis) in order for the load of Canadian produce to be released. This has caused delays of up to 10 days for some shipments into the U.S. market. To resolve the problem, the USFDA has recently entered into an agreement with U.S. Customs to release the Canadian shipments under the U.S. Customs Release Line Procedure, which should considerably reduce the delays.

(c) Marketing Regulatory Issues: Packaging and Labelling Regulations for Processed Products

On the processing side, the most frequently repeated industry complaint concerned the allegedly lax and inconsistent application of Canadian regulations to U.S. imports, which slip through the inspection procedures and find their way to the retail market in violation of Canadian regulations. Their presence is seen as testifying to the inadequacy of Canadian border controls.

To illustrate their point, representatives of the processing sector presented to the Tribunal samples of U.S.-made products found in Canadian retail establishments, which were in non-standard containers, lacked proper grade designations, bore unilingual labels and misrepresented the net quantity of the product or contained ingredients or additives not permitted in Canada. They were offered as proof of the Government's inability or unwillingness to thoroughly enforce regulations on imports.

The industry argued that if regulations were on the books, there should be sufficient resources to have them effectively enforced, especially if the United States was

vigorously enforcing its border inspection regulations. However, neither the Canadian industry nor the federal or provincial governments have kept systematic records of U.S. infractions and it is not possible to estimate what share of the large two-way trade in fruits and vegetables is really subject to inadequate inspection or inadequate enforcement of various regulations.

Processed products manufactured in, or imported to, Canada must meet the requirements of the Processed Products Regulations established under the authority of the *Canada Agricultural Products Act* (administered by Agriculture Canada), the Consumer Packaging and Labelling Regulations of the *Consumer Packaging and Labelling Act* (administered by Consumer and Corporate Affairs), and the Food and Drug Regulations of the *Food and Drugs Act* (administered by Health and Welfare). These determine the dimensions and net quantities of containers, the composition and grade of products and the labelling requirements.

In the United States, the equivalent function is fulfilled by the *Agricultural Marketing Act* and the *Food, Drug and Cosmetic Act.*

Canadian regulations are generally more demanding than those in the United States and reflect the different philosophy and approach to regulations in the two countries:

* **Packaging**: In Canada, standardized packaging has been a fact of life for most of the present century. The majority of common processed fruit and vegetable products must be packed in a limited number of specified containers or packages; in the case of some products (canned fruits and vegetables, jams and pickles) the net quantity must be described by volume (Canada is the only country in the world with this requirement). In the United States, container and package sizes are basically unregulated, and there has been no attempt to rationalize packaging through legislation;

* **Labelling**: Canada has special requirements with respect to metric measures and bilingual labels. The United States has recently introduced new nutrition labelling requirements, which are considerably different from those currently in use in Canada and the European Community. This abrupt change will make harmonization of standards more difficult;

* **Grade Standards**: In Canada, the declaration of grades is mandatory for interprovincial trade; in the United States, grades are voluntary except where federal, state or local authorities require USDA grades as a basis for contract purchases;

* **Additives and contaminants**: The two countries use somewhat different definitions of food dyes and have different requirements regarding sulphates (bleaches) and preservatives. In Canada, fortification with vitamins and minerals is based on replacing those nutrients lost in processing, while in the United States, they are viewed as ingredients with almost unlimited use.

Neither country requires processed fruit and vegetable products to be inspected or certified before leaving their country of production. The United States, however, requires entries of canned low-acid foods to originate from plants which have registered

their processes with the USFDA. Canada has no similar requirement. Shipments of processed products entering Canada must be accompanied by an import declaration which is to be passed by the Customs Officer to the nearest Agriculture Canada food inspection office. Although U.S. entry requirements appear similar, U.S. Customs inspects and enforces country of origin legislation on foods, while Canada Customs merely serves as a document distributor for entry forms.

(d) Harmonization of Standards

It is not clear how and when the current Canadian regulatory framework will be altered by the changing rules of international trade. In the North American setting, the crucial document is the CUSTA, and particularly Article 708 (Technical Regulations and Standards for Agricultural, Food, Beverage, and Certain Related Goods) which urges the parties to "seek an open border policy" and "to harmonize their respective technical regulatory requirements and inspection procedures ... or, where harmonization is not feasible, to make equivalent their respective technical regulatory requirements ...."

The provisions recognize that there is more to a free trade area than the removal of tariffs and that differing or restrictive regulatory requirements can be a barrier to trade and should be removed. Toward that end, Article 708 calls for the creation of several bilateral working groups (on Plant Health, Seeds and Fertilizers; on Dairy, Fruit, Vegetable and Egg Inspection; on Food, Beverage and Colour Additives and Unavoidable Contaminants; on Pesticides; on Packaging and Labelling of ... Goods for Human Consumption; etc.) to meet no less than once a year to discuss and effect the implementation of the Article.

Although several bilateral working groups have been established to deal with specific issues, the progress has been slow. The process of harmonization has been hampered by the lack of binding timetables, such as exist for the removal of tariffs, in the CUSTA document, and by the resulting uneven commitment to harmonization among various interested parties on both sides of the border. There is a perception in Canada that, for the United States, harmonization means that Canada will adopt U.S. standards. Occasionally, harmonization initiatives have been stalled by extraneous events. For example, the bilateral discussions concerning registration procedures and tolerance levels for pesticides were suspended for over a year while the Canadian registration system was being examined by the Pesticide Registration Review Team.

Beyond the North American continent, the larger international community has also struggled to harmonize regulatory standards under *Codex Alimentarius* (Latin for Food Code), produced by the Codex Alimentarius Commission, created in 1962 under the aegis of the Food and Agriculture Organization and the World Health Organization. At the present time, the Codex contains 17 volumes of food standards (regarding labelling, pesticide residues and contaminants, as well as individual foods such as milk products, frozen fruits and vegetables, fruit juices, etc.) and 10 volumes of codes of good manufacturing and hygienic practice.

The purpose of the Codex system is to facilitate world trade in foods by promoting internationally accepted standards while protecting consumers' health. The Codex standards were developed through negotiations, and changes and amendments are submitted to the 138 participating governments with the recommendation that they be embodied in national law and regulations. They usually specify minimum levels for ingredients and practices, and maximum levels for additives or impurities. The Codex system has no enforcement mechanism.

Canada and the United States have participated actively in the work of the Codex, although the two countries differ in their approach and support. The U.S. Congress is reluctant to give up its rule-making powers, while some other groups express concern about sacrificing part of U.S. sovereignty to international decrees. Many current Canadian standards are closer to those of the Codex than to those of the United States. The dilemma for the Canadian industry is whether to harmonize with the United States or with the Codex. Harmonization to any standard is bound to be costly and cumbersome, and the industry does not want to do it twice.

CHAPTER VIII

PRODUCER AND PROCESSOR COSTS

Chapter Highlights

- The review of grower costs suggests that the total cost of producing an acre of fruits or vegetables is, on average, higher in Canada than in the United States. Higher total growing costs in Canada are mainly due to the relative costs for pesticides, interest expenses, fuel and packaging. Higher costs in one jurisdiction compared to another, however, do not necessarily mean that costs on a per unit of output basis will be higher in that jurisdiction.

- The review of processor costs suggests that the total cost of production is, on average, higher in Canada than in the United States. Packaging, wage and overhead costs, as well as raw product costs, tend to be higher in Canada than in the United States. Interest costs are also higher for Canadian processors. As in the case of grower costs, higher total production costs may not in themselves signal a lack of competitiveness.

- On behalf of the Tribunal, Coopers and Lybrand assessed the effects of land use restrictions on the production of fresh fruits and vegetables in Ontario and British Columbia. The study showed significant barriers to the sale of land in key horticultural areas in both provinces.

- The Coopers and Lybrand study concluded that the cost of land and land use policies, while not a major competitiveness factor, are not helpful and even have a perverse effect on the performance of the Canadian fruit and vegetable industry.

1. Introduction

In order for an enterprise to compete domestically or internationally, it seeks to combine basic factors such as land, labour and capital in an efficient manner to produce a product to match or better its current and potential competition. An important factor in the competitiveness of the enterprise is its ability to produce goods with a unit cost less than, or equal to, the cost for the competing producers. In this report, production costs are analyzed in two stages -- prices of individual inputs and average costs per unit of output. The purpose of this chapter is to compare the input prices for producers and processors in Canada with those of our major competitor, the United States. In the next chapter, average cost per unit of output and other factors affecting competitiveness will be assessed.

During the hearings, growers gave testimony indicating that the costs of several of their crucial inputs are higher in Canada than in the United States. Specifically, growers indicated that labour, pesticides, fuel and interest costs are higher in Canada than in the United States. As a result, growers contend they are at a competitive disadvantage to their competitors in the United States.

In the submissions of processors, the need to keep production costs in Canada in line with costs in the United States was generally recognized. Submissions generally indicated that wage, packaging and overhead costs were higher in Canada than in the United States. Views differed by region and product, however, on whether raw product costs were higher in Canada than in the United States. Processors in British Columbia contended that their raw product costs were higher than those of their U.S. competitors. In Ontario, the submissions, on balance, did not indicate raw product costs to be a particular problem for processors. In Quebec, submissions generally indicated that raw product costs were similar to those paid by processors in the United States. Potato chip manufacturers, representing processors from across the country, indicated that their raw product costs were higher in Canada.

2. Producer Costs

(a) Labour

Fruit and vegetable production is generally very labour intensive. Production is seasonal and does not usually provide employment throughout the year; the demand for seasonal workers is especially strong at harvest time. For some time, there has been a shortage of qualified domestic agricultural workers in Canada and in several states with significant horticultural production. To help supply farm workers, the Governments of both Canada and the United States provide offshore labour programs that allow for the temporary employment of foreign workers from the Caribbean and Mexico.

The cost of a hired farm worker to the employer consists of two components: a basic wage rate and benefits. The basic wage rate in Canada may not be less than the minimum wage rate set in the province of employment. The legally required benefits consist of contributions to the Canada Pension Plan, unemployment insurance, medicare, and workers' compensation. Employers' contributions on behalf of their employees are usually stipulated by law for basic benefits equal to, or at a specified rate of, the contributions deducted from the employees' remunerations. The Canada Pension Plan and the United States Social Security are federal programs which are compulsory in both countries. Unemployment insurance, medicare and workers' compensation are also required and are covered either under federal and/or provincial/state jurisdiction. Accordingly, these premium rates vary from one region to another. However, there are exemptions in both countries for agricultural employers involving each specific benefit program; these exemptions are related to the number of employees, their earnings and/or the total payroll of the employer in the specific or previous calendar year. Some employers provide benefits in addition to those required by law.

There is no published data on wage rates specifically for workers in fruit and vegetable production in Canada and in the United States. As proxies for horticulture wage rates, however, the Tribunal research staff identified three alternative measures: the average wage rate for hired farm labour on a national basis, the minimum wage for horticulture workers in each province and state, and the wage rate set in the offshore labour programs. The most recent data for these three measures for Canada and the United States are set out in Table 8.1.

In order to compare wage and benefit costs in Canada and the United States, the analysis focused on the employer's costs to hire a person at the minimum wage, to hire a person at the average hourly wage in agriculture and to hire a worker through the offshore labour program. The comparison was based on legislation affecting Ontario and New York. Ontario was chosen to represent horticulture in central Canada because

Ontario has the largest share of the horticultural industry and because Ontario's minimum wage rate is the highest in Canada. New York was chosen because of its geographical proximity to central Canada and because growers in that state make use of the offshore labour program to hire horticultural workers.

(i) Minimum Wage Rate

Minimum wage legislation is normally under provincial jurisdiction across Canada; however, various agricultural jobs are excluded from this legislation.[1] For example, persons employed on an Ontario farm in the growing of fruits and vegetables are exempt from minimum wage legislation. Persons employed in the harvesting of fruits and vegetables, however, are entitled to a minimum hourly wage rate; an experienced adult harvest worker must receive a minimum rate of $5.40/h as of January 1, 1991, while a harvest worker under 18 years of age must receive a minimum rate of $4.55/h. Provincial rates vary between $4.80/h and $5.40/h across Canada for 1991. In the United States, under the *Fair Labor Standard Act*, the U.S. Department of Labor is given the power to enforce a federal minimum wage rate of US$4.25/h, for 1991 (equivalent to CAN$4.90/h). However, each state may enforce its own minimum wage rate legislation.[2] For the six selected states, the 1991 minimum wage rates vary from CAN$3.87/h to CAN$4.90/h. This minimum wage rate comparison reveals a slightly higher rate in Ontario than in the six states. For example, the minimum wage rate for a person harvesting fruits, vegetables or tobacco for 1991 in Ontario is 50¢/h or 10.2 percent higher than in New York.

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1. Canada Employment and Immigration Commission, Provincial Employment Standards Respecting Agricultural Workers, Ottawa - Hull, January 1990, pp. 2-3.
2. U.S. Department of Labor, The Fair Labor Standards Act of 1938, as Amended, April 1990. Unpublished document prepared by Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, February 8, 1991.

Table 8.1

BASIC HOURLY WAGE RATES PER HIRED FARM WORKER: CANADA - UNITED STATES COMPARISON

CANADA	B.C.	Prairies[1]	Ont.	Que.	Atlantic	Canada[2]
Basic Wage Rate (CAN$/h):						
1. Minimum Wage						
1991[3]	5.00	4.80	5.40	5.30	5.00	4.00[4]
2. Average wage rates for domestic workers[5]						
1986	6.27	6.05	5.34	4.97	4.99	5.53
1987	-	-	-	-	-	5.78
1988	-	-	-	-	-	6.08
1989	-	-	-	-	-	6.46
1990	-	-	-	-	-	6.72
3. Offshore workers' wage rates[6]						
1987	*	-	4.60	-	*	*
1988	*	-	4.95	4.95	*	*
1989	*	-	5.15	5.15	-	*
1990	*	-	5.60	5.35	-	*
1991	*	5.58	5.75	5.50	5.65	*

UNITED STATES	CA	FL	MI	NY	OH	WA	USA
Basic Wage Rate (CAN$/h):[7]							
1. Minimum Wage							
1991	4.90	*	3.87	4.90	4.90	4.90	4.90[4]
2. Average wage rates for domestic workers[5]							
1986	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	-
1988	7.41	6.98	5.51	6.18	6.27	6.55	6.18
1989	7.57	6.81	5.55	6.22	6.11	6.74	6.35
1990	7.40	7.00	6.01	6.43	6.52	6.94	6.44
3. Offshore workers' wage rates[6]							
1987	6.85	6.18	5.18	5.53	5.81	5.99	*
1988	6.66	6.04	5.19	5.32	5.66	6.50	*
1989	6.60	6.25	5.02	5.60	5.67	6.03	*
1990	6.77	6.02	5.19	5.69	5.69	6.32	*
1991	6.47	6.17	5.66	6.01	5.83	6.57	*

CA = California; FL = Florida; MI = Michigan; NY = New York; OH = Ohio; and WA = Washington.
- Data not available, or not readily available.
* Not applicable.
1. Prairies are calculated as a straight average of Saskatchewan, Alberta and Manitoba.
2. From 1987 on, Farm Input Price Index (1981 = 100) is used to calculate the wage rate.
3. In Quebec, $5.55 as of October 1; in Ontario, $6.00 as of November 1.
4. Federal minimum wage.
5. All hired farm labour, does not include board.
6. All hired farm labour includes field, livestock, supervisory and other farm labour.
7. US$ are converted into CAN$ at the prevailing average annual exchange rate.

Source: Canada: Statistics Canada, Farm Wages in Canada, cat. no. 21-002 and CANSIM. Employment and Immigration Canada, Labour Market Services Branch, and Ontario Ministry of Labour, Employment Standards Branch.
United States: U.S. Department of Labor, Employment and Training Administration, Wage and Hour Division. USDA, Agricultural Statistics Board, Farm Labor.

The wage rate required to attract domestic farm workers will usually vary with the relative strength of general economic conditions, especially the demand for employees by industrial firms in the immediate area. In some large urban areas where the average industrial wage is significantly higher than the minimum wage, there may be virtually no employee response to job offers at the minimum wage.

(ii) Offshore Labour Program

Foreign workers are allowed to work on a temporary basis in both Canada and the United States through specific programs. In Canada, there are two offshore labour programs, namely, the Commonwealth Caribbean Seasonal Agricultural Workers Program and the Mexican Seasonal Agricultural Workers Program. These allow temporary employment of foreign workers when qualified domestic agricultural workers are not available. Currently, 90 percent of foreign workers are employed in Ontario; the remainder is employed in Quebec, Manitoba, Alberta and Nova Scotia.

Foreign agricultural workers are permitted to work in the United States through the H-2A Temporary Foreign Worker Program and the Special Agricultural Worker Program under the *Immigration Reform and Control Act* of 1986. The H-2A program is open to all farmers regardless of the type of production, although the majority of foreign workers are employed in sugarcane, apple and tobacco production. Out of the six selected states shown in Table 8.1, only New York used the H-2A program for the purpose of horticultural products in the past 10 years.

The terms and conditions of employment for foreign agricultural workers are generally similar in both Canada and the United States. Wage rates for foreign workers in Canada are announced by Employment and Immigration Canada. In the United States, Adverse Effect Wage Rates (AEWR) are the minimum wage rates which the U.S. Department of Labor has determined must be offered and paid to United States and H-2A agricultural workers by their employers. The foreign workers' hourly wage rate for apple harvesting in Ontario, in 1991, was $5.75 compared to CAN$6.01 in New York. This amounted to an advantage of 26¢/h for Ontario growers. Both Canadian and U.S. employers must also provide return transportation (provided the contract is completed) and approved housing,[3] at no cost to workers. In Canada, employers are required to contribute to Canada Pension Plan, Unemployment Insurance, Workers' Compensation and Employer Health Tax for each employee. Employers of foreign workers under the U.S. H-2A program are exempted from social security, medicare and unemployment insurance contributions.

(iii) Comparison

Ontario and New York were chosen to compare employers' total hourly labour costs between Canada and the United States since foreign workers are used extensively for horticultural crop production in both places (Table 8.2). Assuming minimum wage rates are applied, total hourly wage rates for domestic workers in 1991 were $5.99 in Ontario and CAN$5.87 in New York. This amounted to a 2 percent difference in favour of New York. When the average annual wage rates in agriculture are used for comparison, the estimated employers' total compensation package costs were $7.47/h in Ontario and $7.70/h in New York. This represented a 3 percent cost advantage for

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3. Transportation and housing are considered to be part of the employers' costs to hire foreign labour; however, actual figures are not available to be compared.

Ontario growers. Looking at the components of the total hourly costs, it is evident that the basic wage rates were higher, and the premium rates for benefits were lower in Ontario than in New York in both domestic worker comparisons. Finally, a comparison of employers' cost for offshore labour programs in Ontario and New York in 1991 shows $6.39/h and CAN$6.45/h, respectively. Again, there is a small advantage for Ontario growers. The wage rate differential between Ontario and New York is small in magnitude (i.e., 6¢/h or 0.9 percent in 1991). As a result, hired labour cost alone would cause only a small difference in the total cost differential for most of the vegetable crops they produce.

The analysis indicates, that for all three measures of wage rates in combination with legislated benefit costs, the hourly cost of labour compensation for horticulture in Ontario is within 3 percent of compensation in New York state. Based on the regional and state data in Table 8.1, this conclusion generally holds for most regions in Canada relative to New York. A submission by the Foreign Agricultural Resources Management Services in Ontario also indicated that total wage costs for growers in Ontario and in the northern states are very similar.

One approach to increase the supply of workers for growers would be to provide workers with a choice between the higher of the minimum wage and an incentive-based wage package (specific number of dollars per unit of harvest). The submission by FARMS from Ontario provided an example for apple growers in New York and Ontario. Workers under an incentive scheme in New York averaged more bins of apples per day and earned more money per hour than was the case in Ontario under the traditional approach. Grower cost per bin was lower in New York. The choice between the higher of the minimum wage or an incentive-based wage is also used by lettuce growers in California. During a visit to observe a picking operation for lettuce near Salinas, the Tribunal was told by a large commercial grower than workers always earned the incentive wage rather than the minimum wage. For the lettuce grower, this approach provides not only lower labour costs per case of lettuce but also a much more accurate forecast of the labour cost per case.

Table 8.2

EMPLOYERS' HOURLY COSTS PER HIRED FARM WORKER: CANADA - UNITED STATES COMPARISON, 1991

1. Based on statutory minimum wage (CAN$/h):

	Ontario	(premium)	New York	(premium)
Minimum Wage	5.40		4.90	
CPP/SS[1]	0.12	(2.3%)	0.30	(6.2%)
UIC	0.17	(2.25% x 1.4)	0.25	(5.0%)[2]
EHT[3]/Medicare	0.05	(0.98%)	0.07	(1.45%)
Workers' Compensation	0.25	(4.69%)	0.35	(7.2%)
Total hourly cost	$5.99	(11.12%)	$5.87 (US$5.09)	(19.85%)

2. Based on average hourly wage in agriculture (CAN$/h):

Basic wage[4]	6.72		6.43	
CPP/SS	0.15	(2.3%)	0.40	(6.20%)
UIC	0.21	(2.25% x 1.4)	0.32	(5.00%)
EHT/Medicare	0.07	(0.98%)	0.09	(1.45%)
Workers' Compensation	0.32	(4.69%)	0.46	(7.20%)
Total hourly cost	$7.47	(11.12%)	$7.70 (US$6.67)	(19.85%)

3. Based on offshore labour programs (CAN$/h):

	Ontario (Mexican program)	(premium)	New York (H-2A)	(premium)
Basic wage	5.75		6.01	
CPP/SS	0.13	(2.3%)		exempted
UIC	0.18	(2.25% x 1.4)		exempted
EHT/Medicare	0.06	(0.98%)		exempted
Workers' Compensation	0.27	(4.69%)	0.44	(7.2%)
Total hourly cost	$6.39	(11.12%)	$6.45 (US$5.59)	(7.2%)

1. Social security contribution in the United States.
2. Note that the UIC in the United States is not uniform across the country. It varies by state and by individual employer. Therefore, it is estimated to be 5.0 percent on average in New York, based on the following assumption:

   First-time employers/Experienced employers contribute

   2.9% (state tax rate)
   6.2% (federal UIC)
   - 4.1% (federal credit)
   5.0% (UIC average in New York)

3. EHT = Employer Health Tax.
4. Basic wages were for 1990; the Canadian rate was used in place of Ontario's.

Source: The Canadian International Trade Tribunal, Comparison of Farm Labour Costs in Canada and the United States: A Case Study of Horticulture, Research Branch, mimeo, July 1991.

(b) Machinery and Equipment

The fully allocated cost of machinery and equipment to produce a crop includes depreciation costs, operating costs and interest costs, if any, on the original purchase price. In submissions received at the hearings, interested parties indicated that the cost of fuel to operate their machinery and interest rates for credit purchases of machinery were significantly higher in Canada than in the United States and were adversely affecting their competitive position.

Most machinery and equipment for horticulture are manufactured in the United States, Japan and Europe. Throughout the 1980s, horticultural machinery and equipment entered Canada free of duty and federal sales tax. Dealers normally quote prices in U.S. dollars, in large part because the machinery and equipment are marketed on a worldwide basis. Industry observers indicated that machinery prices in Canada are about the same as in the United States, after allowing for the exchange rate. Repair costs are also similar in the two countries.

In calculating the contribution of the cost of machinery and equipment to the full economic cost of production, two estimates are required. The first is a depreciation component sufficient to replace the equipment at the end of its useful economic life. The second is the cost of capital tied up in the equipment, whether owned or mortgaged. This is sometimes described as the "opportunity cost" of capital tied up in this investment. The estimate of this component might be approximated by the long-run rate of interest times the original purchase cost. The sum of these two components is the contribution of the capital cost of machinery and equipment to the average long-run cost that must be covered annually from farm revenue to maintain the viability of the growing operation.

An evaluation of the economic cost of machinery and equipment in Canada and the United States was not carried out by Tribunal staff due to a lack of comparable product data by region and state. Estimates of these economic costs are, however, periodically prepared by the Ontario Ministry of Agriculture and Food (OMAF) for many of the fresh fruits and vegetables grown in Ontario. For example, the depreciation cost for tractors and machinery used to grow and machine harvest tomatoes for processing was $449 per acre in 1989. In the OMAF methodology, the cost of capital is based on an assumption that the investment has an equity portion (70 percent) and a debt portion (30 percent). The total estimate for the cost of capital in this case was $219 per acre in 1989, based on an assumed interest rate for the equity portion of 7.7 percent and for the debt portion of 14.0 percent.

The depreciation and cost of capital estimates together accounted for 75 percent of OMAF's estimate of the total cost of machinery and equipment for tomatoes. The remaining costs were for repairs, fuel, and insurance and storage.

On depreciation, there is no reason to think that similar equipment lasts longer in the United States than in Canada and, with similar prices, total depreciation costs should also be roughly similar. Depreciation allowances for tax purposes are normally greater than for economic cost purposes. A comparison of depreciation allowances for tax purposes in Canada and the United States is included in Chapter VII.

Another way of looking at costs of production is on a cash or a "marginal" cost basis. In the case of machinery and equipment, this definition would not include either

depreciation or the opportunity cost of the capital invested by the grower. It would only include the out-of-pocket costs such as repairs, maintenance, fuel, insurance and storage.

Gasoline and diesel fuel prices are generally higher in Canada than in the United States. The prices paid by growers are net of a series of federal and provincial/state rebates. Several price comparisons for competing provinces and states are shown in Table 8.3. For the four comparisons, the farm price for gasoline after tax rebates is higher in Canada by a margin ranging from 62 percent to 100 percent. For diesel fuel, the price is higher after tax rebates in Canada by a margin of 20 percent to 25 percent. Information on government tax rebates for fuel is included in Chapter VII.

Table 8.3

FARM FUEL PRICES IN CANADA AND THE UNITED STATES, 1990-91[1] (CAN¢/L)

	January 1990	January 1991	January 1990	January 1991
	Canada		United States	
Gasoline				
Retail Price	53.8	65.1	33.7	39.8
Tax Rebates for Farmer	16.3	24.6	7.7	9.9
Estimated Farm Price	37.5	40.5	26.0	29.9
Bulk Diesel				
Retail Price	51.1	62.2	39.8	43.0
Excluding Tax	34.1	42.0	29.7	33.3
	British Columbia		Washington	
Gasoline				
Retail Price		66.0		39.2
Tax Rebates for Farmer		15.2		7.9
Estimated Farm Price		50.8		31.3
Bulk Diesel				
Retail Price		63.1		43.7
Excluding Tax		40.6		32.3
	Ontario		Ohio	
Gasoline				
Retail Price		56.7		36.0
Tax Rebates for Farmer		15.2		12.3
Estimated Farm Price		41.5		23.6
Bulk Diesel				
Retail Price		56.6		42.3
Excluding Tax		38.0		31.6
	Quebec		New York	
Gasoline				
Retail Price		71.6		40.6
Tax Rebates for Farmer		19.4		10.8
Estimated Farm Price		52.2		29.8
Bulk Diesel				
Retail Price		66.3		44.4
Excluding Tax		44.7		36.7
	New Brunswick		Maine	
Gasoline				
Retail Price		68.7		37.1
Tax Rebates for Farmer		15.8		11.1
Estimated Farm Price		52.9		26.0
Bulk Diesel				
Retail Price		60.6		44.4
Excluding Tax		41.1		33.7

1. Gasoline is regular unleaded. Both gasoline and diesel prices are for self-serve pumps.

Source: Canadian Oil Markets and Emergency Planning Division, Energy Mines and Resources; Lundberg Survey, Incorporated, and Petroleum Marketing Monthly, U.S. Department of Energy.

(c) Chemicals

Chemical fertilizers are an important element in the cost of growing vegetables and, to a lesser extent, fruits. Fertilizer prices vary from region to region, in part due to transportation costs from the factory to the point of sale.

In the submissions made to the Tribunal, no evidence was presented to the effect that fertilizer prices are higher in Canada than in the United States. Indeed, a submission prepared by Erna van Duren for the Ontario Vegetable Growers' Marketing Board *et al.* indicated that fertilizer prices "are generally cheaper in Ontario than in the U.S. Midwest." On the other hand, the staff study of onions found that fertilizer prices were somewhat higher in Ontario and Quebec than in New York state.

Many submissions to the Tribunal indicated concern over the price and availability of pesticides in Canada. Specifically, it was claimed that the price of most pesticides for horticulture was generally higher in Canada than in the United States and that many effective pesticides being used in the United States were not available for comparable use in Canada.

A detailed comparison of pesticide prices in the two countries is not possible due to the large number of formulations where a particular chemical is available and to the variability of quantity discounts available to growers. The Working Group Report to the Task Force on Competitiveness in the Agri-Food Industry (Agri-Food Task Force) presented price comparisons for over 10 pesticides in 1988 and 1989 and concluded that "prices of all types of pesticides tend to be higher in Canada than in the United States. Herbicide prices in Ontario, for example, range from 7 percent to 44 percent higher than in the United States. Insecticide prices range from roughly comparable versus some areas of the United States to significantly more expensive compared to others." The submission by the Ontario Vegetable Growers Marketing Boards, *et al.* indicated that the general conclusion of the Agri-Food Task Force on pesticide prices still held when the price comparisons were updated through 1990.

The prices of pesticides used in the production of the five products (blueberries, mushrooms, lettuce, carrots and onions) analyzed by the Tribunal staff were generally higher in Canada than in the United States.

A more detailed discussion of the price and availability of pesticides in Canada was presented in Chapter VII. In that discussion, it was suggested that prices are higher due to the cost of a longer and more detailed registration process for pesticides in Canada and to the reduced incentive to register chemicals in Canada arising from the small size of the Canadian market.

(d) Land

The allocation of an annual cost for land in a study of crop production costs is a controversial issue. From a longer-term perspective, the preferred methodology is to calculate the full economic costs of land. Full economic costs indicate the average long-run cost that must be recovered annually from farm revenues to keep land in crop production and to maintain the farm's long-term viability. The Tribunal decided that the preferred measurement, subject to the availability of the appropriate data, is to allocate the return to the grower based on the value of the land for the best alternative use and on the long-term interest rate for farmers.

Other approaches are used to estimate the land allocation in total economic costs. For example, in the OMAF estimates of production costs for fruits and vegetables, the charge for land in production costs is the product of the average value for land used to grow the crop and the real interest rate (the nominal rate, net of inflation). The real rate of interest is used by OMAF to eliminate the impact of speculation in land value during inflationary periods. In the case of an acre of muck soil to grow head lettuce in 1989, the interest on land was $476 ($7,000 per acre @ 6.8 percent). This estimate then appears as a fixed cost in the estimated cost of production of head lettuce. If the methodology were to be based on the nominal rate of interest for the period (10.8 percent), then the interest on land would be $756.

The general forces influencing the demand for agricultural land are the value of the land for agricultural purposes (number and type of crops that may be grown and expected yields) and the value of the land for alternative purposes such as residential or commercial development. The differing characteristics and desirability of land in a region give rise to wide variations in values for land, frequently in adjacent blocks of land. These variations are a major obstacle preventing the compilation of detailed data on land prices for comparison purposes.

There is normally only one crop per season on a given field in Canada and the northern states. In California, however, some vegetable crops may be grown twice in one year. Land that can support two crops generally has a higher market value than land that supports one crop. Land prices also reflect the value and type of crop that may be grown. Land that is ideally suited for a high value crop will normally be higher priced than land that is suitable only for a low value crop. Expected yields from the land also influence the value of the land. Lower yielding land will normally be less valuable than land with high yields.

In three of the case studies prepared by the Tribunal research staff, estimates were prepared for the typical value of land in growing regions in Canada and the United States. The data shown in Table 8.4 suggest that prices generally reflect the various factors outlined above. Land prices are higher when they are situated near urban areas rather than rural areas. The price of land that is used for double crops of lettuce in the Salinas Valley of California is much higher than the price of land in Quebec or New York state. As a general observation, the price of land used for lettuce, carrots and onions in Canada is comparable to that in competing states.

Table 8.4

COMPARISON OF LAND VALUES FOR THREE CROPS CANADA AND THE UNITED STATES, 1990 (CAN$ per acre)

Lettuce muck soils	
New York	1,500 - 3,000
Quebec	1,500 - 3,000
California (Salinas)	8,000 - 10,000
Carrots	
Ontario (Holland Marsh)	10,000 - 12,000
Quebec	1,500 - 3,000
Michigan (urban)	10,000
Michigan (rural)	1,500
California	8,000 - 10,000
Onion muck soils	
Quebec	1,500 - 3,000
New York	1,500 - 3,000
Ontario (Holland Marsh)	10,000 - 12,000

Source: Canadian International Trade Tribunal Case Studies.

In addition to the complexity of land price comparisons, submissions at the hearings indicated that land use restrictions that affect owners' ability to sell their land is a matter of great concern to them. At public hearings, particularly in Niagara, several growers made impassioned statements about their inability to liquidate their land investment due to provincial and regional government constraints on the sale of land in designated agricultural areas. Many older growers have held land as a retirement investment, but are sometimes unable to sell their land to buyers for non-agricultural purposes in these designated areas. Similar complaints were also raised at the hearing in Vancouver concerning the sale of land in the Okanagan and Fraser Valley.

On behalf of the Tribunal, Coopers and Lybrand assessed the nature and magnitude of barriers to entry and exit in the production of fresh fruits and vegetables in Ontario and British Columbia, and assessed the effect of these barriers on the competitiveness of the Canadian production of fresh fruits and vegetables.

The study results showed that land use restrictions do indeed create significant barriers to the sale of land. In the Niagara peninsula area of Ontario, farmers who own the agricultural land are limited as to their ability to sell the land as long as it has an Agricultural Purpose Only designation. In both the Okanagan and the Fraser Valley areas of British Columbia, farmers are also limited in their ability to sell farmland due to the policies of the Agricultural Land Commission.

Although the speculative demand for agricultural land for use in alternative purposes, such as housing and golf courses, tends to inflate land prices in these areas above its value for agricultural purposes, restrictive provincial and municipal land use policies prevent current owners from selling their land at full "market" value. Existing growers are coming under increasing pressure to sell their land because of the low returns to growing fruits. Naturally, they want to receive the best possible price for their land. This situation inevitably leads to conflicts between current land owners and the administrators of the land use controls.

The consulting study also indicated that there is a significant barrier to entry for a new grower in the tender fruit and apple industry due to the large sums of capital required to purchase the land to establish or change an orchard. "The low returns currently earned within the industry are insufficient to absorb the high financing costs associated with a start-up operation." The high cost of land prevents many existing growers from purchasing additional land to generate economics of scale.

The study concluded that the cost of land and land use policies are not the major cause of the current economic difficulties within the Canadian fruit and vegetable industries. It is the overall relatively weak competitive position of tender tree fruit producers and processors that is causing concern over the long-term viability of these industries. "Land issues are simply a component of a larger problem."

During the course of the hearings, the Tribunal learned of several alternatives to the resolution of the dilemma between the producers who generally believe that land use regulations should be eased to allow them to dispose of their land as they see fit and the governments of British Columbia and Ontario who prefer to keep certain agricultural areas for growing produce. The proposal with the least regulation is to remove the bulk of the restrictions and let the free market decide the best uses of these lands now and in the future. Various other alternatives to resolve this issue have been proposed in the course of reviews of the tender and tree fruit industry in British Columbia and Ontario. Several of these possibilities are directly related to the issue of land costs and usage. In one proposal, for example, as part of an orchard renovation program, the landowner would grant the Government the prior right to buy the land at a price based on agricultural use if the land was put up for sale. A scheme to ease the difficulty of older owners would have the government purchase the land and place a restriction on it to be used for agricultural purposes only. The land would then be sold or leased to buyers at nominal rates in exchange for a commitment to farming. The Niagara Tender Fruit Working Group Report proposed, among other methods, that growers receive annual cash payments for the lease of conservation easements. In return, restrictions would be placed on the land use against developing the lands for urban uses and would insure continued agricultural production. Regardless of the approach taken, preservation of agricultural land may necessitate the simultaneous use of several methods and will require a careful assessment of impacts to all segments of the industry.

In the United States, state and local governments have adopted a wide array of programs whose objective is to reduce the conversion of farmland to non-agricultural use. The programs include tax relief incentives, the creation of agricultural districts, the passing of "Right-to-Farm" legislation, agricultural zoning, purchase or transfer of development rights, and integrated growth management programs through incentives and controls. Agricultural zoning is by far the most common method used by governments to prevent the use of agricultural land for other purposes. In all cases, however, states seem to rely on a combination of measures to protect their farmland.

In New Jersey and Maryland, the purchase of the development rights of the land is seen as a useful tool in preserving agricultural land and in benefitting farmers. This method involves the purchase of the development rights (i.e. the right to build on or beneath the land) of the land by the state; the owner continues to own the land but is compensated for not being allowed to develop the land for non-farm purposes. The rights can be acquired through the direct purchase or donation of the rights or the purchase of the full title to the land, followed by the imposition of restrictions on development and then the sale or perhaps the lease of the land subject to the restrictions. Purchase of development rights is the typical approach and has been used by other states such as Massachusetts, Connecticut and New York. Because of the cost it entails, this type of program has not been used extensively.

(e) Packaging Costs

The preparation of fresh vegetables and fruits for sale in the fresh market requires the purchase of baskets, cartons and other related materials. Producers' submissions to the Tribunal on the cost of production of fruits and vegetables for the fresh market did not draw attention to major differences between Canadian and U.S. prices for these items.

However, the lettuce case study prepared by the Tribunal's staff showed a significant cost disadvantage in the price of packing material for the growers in Quebec compared to the growers in California. The difference in cost for unwaxed cartons was estimated at 60 percent. In Ontario, production cost estimates prepared by OMAF suggest that packaging costs for fresh fruits and vegetables going to the fresh market are roughly 20 percent of the overall cost. If this cost differential also holds for the major users of packaging material, such as cauliflower, celery and peppers (but which were not the subject of case studies), then packaging is indeed an important factor reducing Canadian cost competitiveness in the fresh market. The difference would be particularly important in competing for sales in the U.S. market. Nonetheless, as tariffs decline under CUSTA, the price of packaging for Canadian growers will steadily decrease.

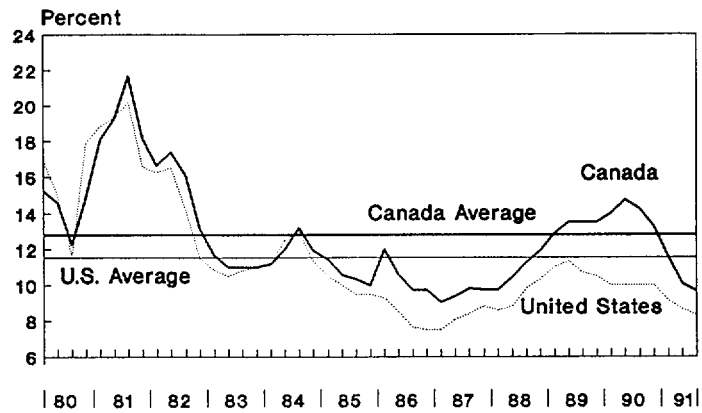
(f) Commercial Seed and Plants

Most vegetable seed is produced in the western United States, Europe and Japan. Canadian growers buy seed from Canadian or U.S. distributors. While there are many varieties of seed for each vegetable, seed that has been specifically developed for Canadian growing conditions is generally not available. Quantity discounts are normally available for seed purchases. Transportation and insurance charges may add to the final price paid by Canadians on seed purchased in the United States. There is no duty on seeds imported from the United States. Seed and plant prices are probably roughly similar in the two countries, after adjustment for the exchange rate.

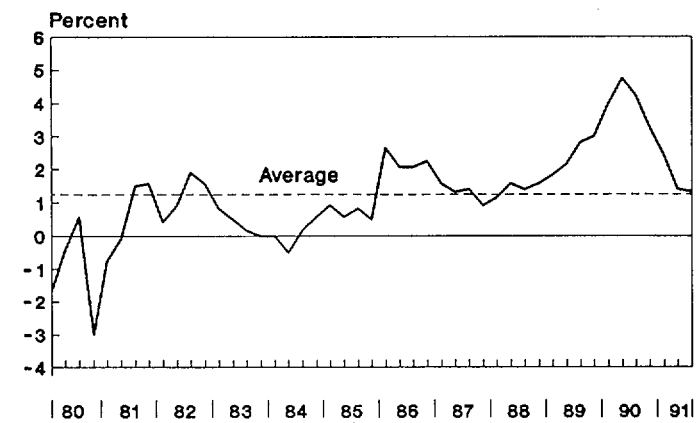
(g) Interest and Exchange Rates

Nominal interest rates were very volatile in Canada and the United States during the 1980s. As shown in Figure 8.1, prime lending rates in both countries were in the neighbourhood of 20 percent early in the decade and then declined irregularly into 1987 to less than 10 percent. Rates then increased into 1990 before starting on a downward trend which has continued into 1991. From 1980 to 1990, the Canadian prime rate was, on average, 1.25 percentage points above the U.S. prime rate. The differential widened considerably in 1989 and 1990, but in May, 1991, it narrowed to 1.25 percentage points, or the average historical differential.

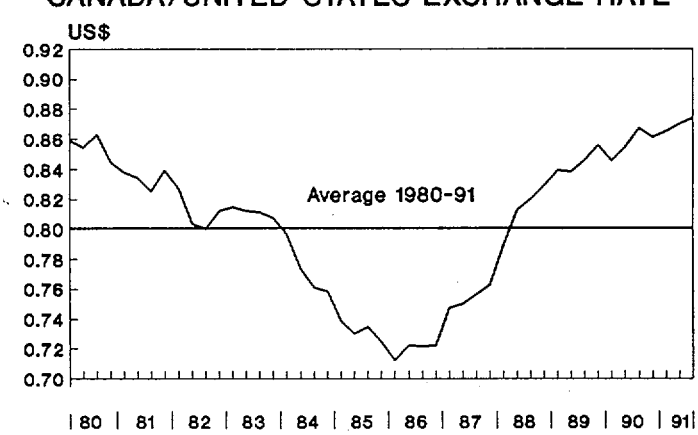
FIGURE 8.1
PRIME LENDING RATE
CANADA AND UNITED STATES



SPREAD BETWEEN PRIME LENDING RATES
CANADA AND UNITED STATES



CANADA/UNITED STATES EXCHANGE RATE



Source: Statistics Canada.

The real prime interest rate (the nominal rate less the inflation rate) averaged over 6 percent in the 1980s in both Canada and the United States (Table 8.5). In June 1991, the real prime rate was less than 4 percent in both countries, in contrast to the higher average during the previous decade. While the real prime rate in 1990 was higher in Canada than in the United States, the real rate from May to September 1991 was marginally lower in Canada than in the United States.

Table 8.5

NOMINAL AND REAL INTEREST RATES CANADA AND THE UNITED STATES, 1980-91
(Percent)

	Average 1980-90	1988	1989	1990	September 1991
Prime lending rate					
Canada	12.86	10.83	13.33	14.06	9.75
United States	11.62	9.40	10.88	10.00	8.50
Spread	1.24	1.43	2.45	4.06	1.25
CPI (All items)*					
Canada	6.4	4.0	5.0	4.8	6.3
United States	5.6	4.0	4.8	5.4	4.7
Spread	0.8	0.0	0.2	(0.6)	1.6
Real interest rate**					
Canada	6.5	6.8	8.3	9.3	3.5
United States	6.0	5.4	6.1	4.5	3.8
Spread	0.5	1.4	2.2	4.8	(0.3)

* Year-over-year percent change.

** "Real" interest rates are calculated in this table as the simple difference between nominal rates and the rate of change in the CPI. The resultant "real" rate, however, may not be fully relevant to producers who have to pay interest on borrowed funds at nominal rates, but whose income from sales of produce increases at less than the increase in the CPI.

Source: Statistics Canada.

Fruit and vegetable growers use long, intermediate and short term credit to purchase a variety of assets. Long-term credit is normally used for a mortgage to purchase land and buildings. Intermediate credit is typically used to purchase machinery. Short-term credit is generally used to finance the annual operating budget for planting, tending and harvesting the crop. Banks, credit unions, cooperatives and supply companies are the major suppliers of loans and credit to growers.

In both Canada and the United States, governments may alter the relative competitive position of growers through efforts to ease the credit burden for growers. Programs exist in both countries to partially offset the impact of high interest rates on growers. While the programs take many forms, they are limited or capped, frequently in a way which allows a program to provide only marginal relief relative to the total credit needs of the grower. Due to the difficulty in compiling information on the size and terms of loans for growers in the two countries, the Tribunal was unable to assess the true cost of borrowed funds for growers in Canada and the United States.

In order to measure the relative impact of interest rates on grower costs in Canada and the United States, the Tribunal has used the differential in the prime lending rate in both countries. This differential averaged 1.25 percentage points (in favour of U.S. producers) during the 1980s. This competitive disadvantage widened considerably in 1989 (2.45 percentage points) and 1990 (4.06 percentage points), before returning closer to historical levels in the second half of 1991. Indeed, by September 1991, the interest differential was exactly equal to the previous 10-year average. For each $100,000 of outstanding debt carried by a horticultural producer (and Agriculture Canada farm finance statistics suggest that the average total debt load, in 1989, for a commercial horticultural operation was $102,000), even a 1.25 percentage point adverse spread on interest rates means an extra cost burden of $1,250 per year compared to his U.S. counterpart.

The Canadian-U.S. exchange rate entered the 1980s on a depreciating trend. The period of depreciation for the Canadian dollar continued into 1986 (Figure 8.1). This period was followed by an appreciation of the Canadian dollar. Over the period from the first quarter of 1986 to the second quarter of 1991, the Canadian dollar appreciated by over 22 percent. The value of the Canadian dollar was higher in July 1991 than it was in 1980. Moreover, the value in July 1991 was nearly 8.75 percent above the average value for the period 1980-91.

The value of the Canadian dollar is important to growers and processors of fruits and vegetables due to its impact on the price of traded commodities and on the price of imported factor inputs such as machinery, seeds and pesticides. During a period of depreciation of the Canadian dollar, exporters may keep their foreign prices constant and increase their profit margins (from greater domestic price proceeds) or they may be able to reduce their export prices and build market share. In either case, exporting is made more attractive to growers. However, a depreciation of the Canadian dollar may lead to higher prices for imports. The price of imported machinery and equipment may rise, increasing input costs for growers. The price of competing import commodities may also rise during this period, although some importers may attempt to keep their prices unchanged to maintain market share. To the extent that imported commodity prices rise, Canadian growers may be able to increase their prices while maintaining the historical price relationship between Canadian and U.S. products.

During a period of appreciation of the Canadian dollar, exporters are faced with a choice of increasing their export price to keep their profit margins constant, and

probably losing market share, or maintaining their export price to maintain market share with an accompanying decline in profit margins. In either case, exporting becomes less attractive. The appreciation also puts downward pressure on import prices. Prices for domestic produce may come under downward pressure from cheaper imports.

On the plus side, a period of appreciation of the Canadian dollar forces domestic growers, indeed all Canadian industry, to improve the productivity and competitiveness of their operations. As well, an appreciation of the Canadian dollar is frequently accompanied by a reduction in general inflation and wage increases in Canada which, in turn, should help the competitiveness of Canadian growers of fresh fruits and vegetables.

(h) Summary

The review of grower costs suggests that the total cost of producing an acre of fruit or vegetable is, on average, higher in Canada than in the United States. Higher total growing costs in Canada are mainly due to the costs for chemicals, interest expenses, fuel and packaging. Higher costs in one jurisdiction compared to another do not necessarily mean that costs on a per unit of output basis will be higher in that jurisdiction. Producers with high costs may have a more productive operation due to technology or management or productivity. In the next chapter, the primary focus will be to assess whether the higher input costs for producers are associated with higher, comparable or lower costs per unit of output.

3. Processor Costs

(a) General

While most provincial governments collect information on the cost of production for fruits and vegetables, data are not collected on the cost of production for processors. Data for processing costs in the United States are also not collected. The published information in the Census of Manufacturers in both countries lacks sufficient disaggregation and timeliness to be used as appropriate approximations to the cost of production for various processed products.

In order to compare processor costs in Canada and the United States, the Tribunal commissioned Price Waterhouse to collect data from processors to prepare cost estimates for the production of several processed fruit and vegetable products in Canada and the United States. The products chosen were: canned and frozen peas, beans and corn; tomato paste and tomato juice; potato chips and french fries; apple juice and apple sauce; and canned peaches and canned pears. The major categories of processor production costs were raw product, supplies, labour, production overhead and fixed overhead.

One important use of the data presented by Price Waterhouse is to provide a general sense of the relative shares of the major input components. The average share for the major input components for the processing of peas, beans and corn (for both canned and frozen product) in Canada and the United States is set out in Table 8.6. It must be emphasized that the shares in the table are averages. Each firm will probably have a different "recipe" for combining raw products and combining resources to produce a similar product. In addition, production costs may be allocated in different ways.

In the table, raw product is defined as the total cost of the product per unit of output. The cost includes payments to growers, harvesting and transportation costs and

various in-plant costs such as washing, sorting and other preparation for production. Supplies include complementary food supplies (sugar, salt, etc.) and packaging. Labour includes all remuneration for supervisory and non-supervisory production line workers. Production overhead includes production costs such as fuel, utilities, repairs and maintenance and plant supplies. Fixed overhead includes such costs as taxes, insurance, depreciation, lease and rental payments, and corporate/office management and administration expenses. In addition, information on transportation and tariff costs was also collected by Price Waterhouse. While this information is not shown in Table 8.6, it will be used later in the chapter. It should be noted that interest and financing charges, as well as marketing and selling expenses, have not been included in the above production costs.

Table 8.6

RELATIVE SHARES[1] OF CANNED AND FROZEN PROCESSING COSTS (1990) IN CANADA AND THE UNITED STATES

(Percent)

	Canned[1]		Frozen[1]	
	Canada	United States	Canada	United States
Raw product	22	25	43	47
Supplies	34	38	10	11
Labour	12	9	20	18
Production overhead	14	13	14	13
Fixed overhead	17	14	13	11
Total[2]	100	100	100	100

1. These shares should not be interpreted as absolute dollar amounts because the total costs are not the same for the two types of products or the two countries.
2. Average for producing cans or frozen packs of peas, beans and corn.

Source: Price Waterhouse Commodity Exhibits.

As shown in Table 8.6, the relative importance of raw product, supplies and labour varies significantly between canned and frozen processing in both countries. More importantly for competitiveness, both raw product and supplies represent a smaller proportion of total costs in Canada than in the United States. As a result, labour and overhead costs represent a larger proportion of total costs in Canada than in the United States.

(b) Raw Product Cost

A measure of raw product cost for processors is not a measure of producer returns. Raw product cost for processors may be measured in different ways. One approach is to estimate the cost of purchasing the raw product and delivering it to the factory door. A second approach is to add the processing costs for washing, cutting, sorting and other preparations to the cost of the product delivered to the factory door. With this approach, the cost will vary with the particular recipe used by the processor and with the in-plant yield (number of cases per tonne of raw product). This second, more comprehensive, approach was used by Price Waterhouse. As a result, raw product costs as used in this study are an accounting measure for the raw product cost per unit of output which is typically defined as a case of final product.

For canned products, the raw product generally accounts for 25 percent to 40 percent of the factory cost. The proportion of raw product cost in the production of canned fruits is normally higher than for canned vegetables since fruit is usually a higher cost raw material. For frozen fruits and vegetables, the raw product cost element is typically more important than in canning. For example, the raw product for canned peas, beans and corn processed in Ontario accounts for an average of 22 percent of production costs, compared with 43 percent for the raw product for processing frozen peas, beans and corn. A better quality and more expensive raw product is generally used for the frozen product than for the canned form. Also, the container cost for frozen fruits and vegetables is generally less than for the canned product, with the result that raw product cost becomes relatively more important for processing frozen commodities.

Considerable caution must be observed in assessing the comparability of raw product costs in the two countries. Processors generally arrange contracts with growers for the purchase of fresh produce. In these contracts, the processor pays the grower through a combination of cash and complete or partial services. Examples of services include provision of seed, fertilizer, crop insurance and harvesting. The data collected by statistical and agricultural agencies normally focus on the contract prices without reference to the inclusion of specific services. As a result, raw product cost data based on contracts may not be exactly comparable between regions and countries.

A second reservation on the comparability of raw product costs arises from the different characteristics of the produce destined to the processor. The characteristics include varieties, typical yield, tenderness, grade and size. In turn, these characteristics may affect the eventual end use of the produce: freezing or canning; as a vegetable or juice; or for secondary processing. If one geographical area grows a high-grade variety for a specific end-use market and another area grows an average-grade variety for general use, then a comparison of raw product costs between the two areas is probably not representative.

A third factor affecting the comparability of raw product costs is the use of averages. In reality, the range of data includes costs for large and small, efficient and inefficient farms and firms. The process of averaging means that the resulting average may not appear to be representative to a particular grower or processor.

Despite the obstacles in comparing raw product costs in the two countries, the Tribunal believes it is important to get a sense of the relative levels of input costs as part of the assessment of processor competitiveness. As a starting point in the assessment of competitiveness, data from recent studies on raw product costs for processors in both countries are compared in Canadian dollars. Rather than focus on the specific dollar

estimates of raw product costs in the studies available to the Tribunal, however, the Tribunal has decided to look at what ranges these comparisons fall into. Cost comparisons were segmented into one of three broad ranges: similar (within 10 percent of U.S. costs), higher (more than 10 percent above the U.S. cost) or lower (more than 10 percent below the U.S. cost).

Several comparisons of the costs incurred by Canadian and U.S. processors in 1989 for raw peas, beans, corn, tomatoes, potatoes, apples, peaches and pears are shown in Table 8.7. The Coopers & Lybrand study for AMPAQ indicated that the processor costs for peas, beans and corn in Quebec and Wisconsin were approximately the same. The Price Waterhouse study for the Tribunal indicated that prices in 1989 for peas and corn are higher in Ontario than in Wisconsin, but the price for beans is lower in Quebec than in Wisconsin. The Crane Management study for the B.C. Food Processors' Association and the B.C. Vegetable Marketing Commission indicated that the raw product cost for peas, beans and corn was more than 15 percent higher in Ontario and Quebec than in Wisconsin. (The cost of these three products was over 25 percent higher in British Columbia than in Wisconsin; the cost was over 10 percent higher than in the State of Washington and Oregon, except for corn, where the difference was less than 10 percent.) In the case of apples for juice and sauce and of potatoes for potato chips, the Price Waterhouse study indicated that the cost for processors is higher in Canada than in the United States. This study also showed that the processor cost for potatoes for frozen french fries is similar in the two countries.

The data presented in Table 8.7 indicate that the cost of raw product at the factory door of the Canadian processor is similar to, or higher than in, the United States. This finding is generally similar to that made in 1990 by the Task Force on Competitiveness in the Agri-Food industry. Moreover, in commenting on the cost difference, the Task Force reported that "processors and growers in the major growing region of Ontario have begun to work together to eliminate the price differentials between Canada and the United States to try to preserve the processing industry in that province."

Table 8.7

COMPARISON OF PROCESSOR COSTS* FOR RAW PRODUCT INPUTS

(Canadian Cost Compared to U.S. Cost)

	Lower	Similar	Higher
Peas		AMPAQ	Crane, PW
Beans	PW	AMPAQ	Crane
Corn		AMPAQ	Crane, PW
Tomatoes (for paste)			PW
Potatoes (for chips)			PW
Potatoes (for fries)		PW	
Apples (for juice)			PW
Peaches			PW
Pears			PW

* In Canadian dollars, excluding tariffs and transportation costs.
AMPAQ: Association des manufacturiers de produits alimentaires du Québec (raw product cost in final product).
Crane: Crane Management Consultants Ltd. (plant door cost).
PW: Price Waterhouse Commodity Exhibits (raw product cost in final product).

(c) Supplies (Packaging)

Packaging costs for processors were estimated to be, on average, around 20 percent of the total cost of production, although, for some products, there is considerable variation from the average. Packing includes metal and glass containers, printed cartons, corrugated shipping cases and printed labels.

The data on packaging costs in 1989 collected by the Agri-Food Task Force indicated that "almost every form of packaging commonly used in the food industry has a higher cost in Canada." The price differences for the various packaging items ranged as high as 40 percent in 1989. The higher prices in Canada as opposed to those in the United States are due to higher manufacturing costs in Canada arising from inefficiencies in scale, too many product lines and low capacity utilization.

In a submission to the Tribunal at the hearing in Ottawa, Perry Nelson, the President and Chief Executive Officer of Crown, Cork and Seal, indicated that container costs were higher in Canada than in the United States, but that ongoing industry restructuring was leading to a significant narrowing of the price differentials for metal containers. He also indicated that the decline in tariff protection for the packaging industry was a key stimulus to the start of efforts to reduce costs in Canada relative to the United States and that the industry aimed to be fully competitive within North America well before the complete phase out of tariffs between Canada and the United States.

(d) Labour (Wage Rates)

Table 8.8 sets out average hourly earnings and total hourly compensation costs for fruit and vegetable processing for Canada and the United States from 1986 to 1991. On an exchange rate adjusted basis, average hourly earnings were higher in the United States than in Canada in 1986 and 1987, but since 1987, Canadian wages in U.S. dollars have become higher by a gradually increasing margin. In part, the change since 1986 reflects a 16 percent appreciation of the Canadian dollar relative to the U.S. dollar. On a regional basis, average hourly earnings in British Columbia were higher than in Ontario for the entire period from 1986 to 1991.

In the case studies conducted by Price Waterhouse, the estimate of the wage rate for the processing industry was average wages per employee based on data from the Census of Manufactures. The disadvantage of the Census data is that comparable wage information beyond 1987 is not yet available. As a result, the Tribunal used the data on average hourly earnings for the fruit and vegetable processing industry for the analysis of the current industry wage rate. For 1986 and 1987, both sets of wage data show the Canadian wage rate to be less than the U.S. wage rate.

As in the case of farm workers, an estimate of the employer cost of required worker benefits was prepared and is included in Table 8.8. The estimate of the cost of benefits assumes that benefits cost the same percentage of the hourly wage for both farm and processing workers. The resulting total cost of hourly compensation, adjusted for the exchange rate, indicates that compensation costs are 3 percent higher in Canada than in the United States in 1991. Total hourly wage costs in Ontario, however, were 14 percent higher than the Canadian average.

The wage bill as a share of total factory costs is estimated to be, on average, about 10 percent in the fruit and vegetable processing industry. Variations of up to 5 percentage points on either side of the average are likely to occur.

Table 8.8

TOTAL HOURLY LABOUR COMPENSATION IN THE FRUIT AND VEGETABLE PROCESSING INDUSTRY: CANADA[1] - U.S.[2] COMPARISON

	B.C.	Prairies	Ont.	Que.	Nova Scotia	Canada	United States		Exchange Rate
1. Hourly Earnings (Basic Wage):[3]			-CAN$/h-				-US$/h-	-CAN$/h-	-CAN$/US$-
Domestic Workers									
1986	11.8	-	11.0	7.7	6.7	10.0	8.02	11.1	1.3894
1987	11.3	-	11.0	8.4	7.0	10.1	8.26	11.0	1.3260
1988	11.6	-	11.4	8.6	7.2	10.4	8.40	10.3	1.2309
1989	12.5	-	12.0	8.9	7.6	10.8	8.71	10.3	1.1842
1990	13.3	-	12.5	10.0	8.4	11.5	8.95	10.4	1.1668
1991	14.1*	-	13.8*	-	-	12.1*	9.43	10.9**	1.1541**
Foreign (Offshore) Workers[4]									
1990	-	-	5.55	-	-	-	-	-	-
1991	-	-	5.75	-	-	-	-	-	-
2. Benefits[5] (Legally Required in 1991), %:	-	-	11.12 %	-	-	11.12%	-	19.85%	-
3. Total Hourly Compensation, 1991:									
Domestic Workers	-	-	15.33	-	-	13.45	-	13.06	-
Foreign (Offshore) Workers	-	-	6.39	-	-	-	-	-	-

- Not available, or not applicable.
* Average for the first quarter of 1991.
** Average for the first five months of 1991.
1. SIC 103, Fruit and Vegetable Processing Industry (1970 base) in Canada.
2. SIC 203, Preserved Fruit and Vegetable Industry in the United States.
3. Hourly earnings represent gross pay before deductions for taxes, unemployment insurance contributions, etc.
4. Foreign (offshore) workers engaged in canning/processing in Ontario under the Commonwealth Caribbean and Mexican Seasonal Workers' Programs.
5. Benefits include Canada Pension Plan in Canada (Social Security in the U.S.), Unemployment Insurance, Medicare, and Workers' Compensation. Other benefits, such as transportation and housing for foreign workers, are excluded due to a lack of data. See Table V-1 for details.

Source: Canada: Statistics Canada, Employment Earnings and Hours, Cat. No. 72-002, Monthly, 1986-91; and CANSIM
United States: U.S. Department of Labor, Supplement to Employment and Earnings, Bureau of Labor Statistics, 1989; or 1989, 1990 and 1991 data was obtained by telephone from the U.S. Department of Labor.

In Canada, foreign workers are allowed to work in the fruit and vegetable processing industry under offshore labour programs. In 1990, a total of 841 positions in the Ontario processing industry were filled by foreign workers. The basic hourly wage rate for workers in the program in Ontario was $5.55 in 1990 and is $5.75 in 1991. After adjustment for benefit costs, the average hourly employer cost for foreign workers in the processing industry in Ontario in 1991 is $6.39, compared with $15.33 for regular employees. This differential represents a strong incentive to use offshore workers to fill vacancies for unskilled and non-technical positions. In 1990, however, the percentage of foreign workers in total fruit and vegetable processing employment in Ontario was only about 10 percent.

(e) Overhead costs

Overhead costs include repairs and maintenance, plant supplies for cleaning, taxes, insurance, depreciation, tax and rentals, corporate and office management, financing costs, marketing expenses and selling expenses. The data in Table 8.6 indicate that overhead costs are a very important element of total production costs, with their average share of total costs in the neighbourhood of 30 percent in Canada and 25 percent in the United States. Information provided by processors at the hearings suggests that the difference in the relative share of overhead between Canada and the United States may be due to smaller scale plants, less specialization, lower capacity utilization and a shorter processing season in Canada.

With the exception of utility prices, the Tribunal was unable to obtain comparable price data at the industry level for the major components of overhead costs for Canadian and U.S. fruit and vegetable processors.

(f) Utilities

The cost of electricity and natural gas represents, on average, about 2 percent of the cost of production for processors. At the hearings, processors' submissions did not refer to the cost of utilities in Canada as a problem affecting their ability to compete with U.S. processors. The data in Tables 8.9 and 8.10 indicate that industrial prices for electricity and natural gas are not significantly different in Canada and in the United States.

Table 8.9

ELECTRICITY RATES
CANADA AND THE UNITED STATES, 1990

(CAN¢/kW.h)

	Farmers January 1990	Processors* January 1990
Montréal, Quebec	6.8	6.6
Toronto, Ontario	7.5	8.4
Calgary, Alberta	6.7	6.0
Vancouver, British Columbia	6.4	6.3
Sacramento, California	9.0	2.3
Salem, Oregon	5.4	6.7
Albany, New York	9.5	8.7
Olympia, Washington	4.9	3.5
Madison, Wisconsin	7.5	7.3

*Based on typical monthly billing demand of 1000 kW.

Source: Survey by Crane Management Consultants Ltd., Vancouver, B.C.

Table 8.10

NATURAL GAS RATES
CANADA AND THE UNITED STATES, 1990

(CAN¢/cu. ft.)

	Processors January 1990
Montréal, Quebec	2.7
Toronto, Ontario	2.9
Calgary, Alberta	2.5
Vancouver, British Columbia	2.8
Sacramento, California	2.8
Salem, Oregon	2.6
Albany, New York	2.3
Olympia, Washington	2.3
Madison, Wisconsin	2.4

Source: Survey by Crane Management Consultants Ltd., Vancouver, B.C.

(g) Interest Rates

Credit costs for processors will depend on how the operations of the firms in the industry are financed. If the use of borrowed funds by the fruit and vegetable processing industry is similar in Canada and the United States, then the higher interest rates in Canada will add more to costs in Canada. If the use of borrowed funds is relatively greater by the Canadian industry, then the cost differential between the two industries will be even greater.

The two main uses of credit by processors are for the purchase of new capital equipment and the financing of inventory. In the case of new capital equipment, higher interest rates in Canada may discourage new capital investment projects that could improve competitiveness through larger production facilities and the purchase of the latest technology. Inventory storage is more seasonal for processors than for most manufacturers due to the relatively short processing season and the need to hold inventory until the next processing season. Freezing companies tend to have higher holding costs than canners due to the need to keep the product refrigerated at all times. Larger firms are usually able to borrow money at lower interest rates than smaller companies, which would ease the cost of inventory for larger firms.

Data on the volume of borrowing and the effective interest rate for the processing industry in Canada and the United States are not available. The Tribunal assumes that the use of borrowed funds in Canada is at least as great as in the United States. If this is true, higher interest rates in Canada must lead to higher interest expenses for Canadian fruit and vegetable processors.

(h) Summary

The review of processor costs suggests that the total cost of production is, on average, higher in Canada than in the United States. Raw product costs in Canada are typically similar to or higher than in the United States. Packaging costs, wages and overhead costs are higher in Canada. Interest rate costs are also higher for Canadian processors. As indicated in the summary of grower costs earlier in the chapter, higher component or total production costs may not in themselves signal a lack of competitiveness. For processors, the key indicator is the average cost per unit of output and the costs to get competing products into the Canadian market. Thus, to compare costs in the Canadian market, U.S. costs need to be adjusted to include transportation costs and the tariff. Costs for several products which have been adjusted for these factors will be discussed in the next chapter.

CHAPTER IX

COMPETITIVENESS OVERVIEW

Chapter Highlights

- There is a wide variation in crop yields among growers in Canada. For some crops, the average production per acre in Canada matches the average in the United States. For most crops, however, the average production yield is higher in the United States, although the better Canadian producers have yields above U.S. averages.
- Labour productivity in the processing sector from 1980 to 1987 was generally lower in Canada than in the United States. The gap between the two countries is much smaller for freezing than for canning operations.
- When average cost per unit of output for the major processing crops is adjusted to reflect the added costs of transportation and tariffs on shipments from the United States, Canadian growers had similar or lower average costs for 7 of 9 crop comparisons.
- Comparisons of the delivered duty-paid price in Canada of 11 processed products that are produced in Canada and the United States show that Canada has a price advantage in over one-half of the products.
- The main competitive challenges to the domestic industry have been identified as: higher costs generated by the Canadian economy; higher costs resulting from government regulations; insufficient emphasis on productivity; lack of export orientation; and weak marketing strategies. At the same time, there is declining tariff protection for the domestic industry.
- The Tribunal learned about many organizations that were successful in the late 1980s and in 1990. Lessons to be learned for competitiveness included: achieving productivity gains through scale and efficiency investments; quality control of production; product differentiation; obtaining professional marketing assistance; expanding into export markets; and achieving consistency and predictability in the supply of product.

1. Introduction

"Competitiveness" and "competitive position" are terms which appear with considerable frequency in the financial and business press. Despite the popularity and importance of the topic, there are relatively few empirical industrial studies of competitiveness. The scarcity of studies probably reflects two difficulties: first, defining and measuring competitiveness; and second, assessing the role of a wide range of quantitative and qualitative factors determining competitiveness.

In the absence of a generally accepted definition of competitiveness, the Tribunal staff proposed (at the preliminary hearing in September 1990) the use of a market-oriented definition of competitiveness: "the ability to maintain or increase market

share in domestic and in export markets while earning at least normal profits." With the exception of "normal profits," this definition is similar to that used in the Task Force on Competitiveness in the Agri-Food Industry. The Tribunal included normal profits in the definition in order to emphasize that there is a need for sufficient profit to maintain the long-term viability of the industry.

Any measurement of competitiveness is constrained by the availability of data. Ideally, the best approach to assess the competitiveness of a firm or small group of firms selling a particular commodity would be to obtain firm-specific data on production costs, market share and profits. However, some firms often do not have all the required data readily available or may be unwilling to provide the confidential data for such a study. As a result, the Tribunal's assessment of competitiveness did not include measures of profits, but focused on costs and market share using a variety of indicators.

While cost is a very important factor determining the degree of competitiveness, the Tribunal believes other, more qualitative factors are also important determinants of competitiveness. The Tribunal was able to gain an understanding of the non-cost aspects of competitiveness through producers' and processors' testimony and submissions, as well as through visits to farms and processing establishments. The elements of success which we noticed over and over were steady increases in productivity; marketing practices that respond to changing consumer requirements; a co-operative approach to selling fresh produce; and an export orientation in sales.

The purpose of this chapter is to assess the competitiveness of the fresh and processed fruit and vegetable industry in Canada, focusing on 13 major commodities and 11 major processed products. The research work undertaken by and for the Tribunal placed primary emphasis on cost competitiveness. This emphasis was due primarily to the fundamental importance of cost in maintaining or improving competitiveness in the agricultural commodity area. The assessment of competitiveness for products used a combination of data on average cost and market share.

After the assessment of cost competitiveness, the chapter provides a review of the major competitive challenges to the domestic industry. While the challenges are real and significant, the Tribunal discovered many ongoing success stories in both the grower and processor parts of the domestic industry. The important elements in these success stories are summarized in the concluding section.

2. Framework for Assessing Cost Competitiveness

There are two main ways for a firm to establish a competitive advantage relative to competitors. First, the firm could seek to provide the product at a lower price than its competitors. This approach is known as achieving competitiveness through cost leadership. Second, the firm could seek to distinguish its product as superior to competing products, often through extensive advertising and attractive packaging, with the expectation of receiving a higher price for it. This approach is known as achieving competitiveness through product differentiation. The primary focus of the Tribunal's research program was on the **cost leadership** form of competitiveness. The information obtained on costs is also relevant for competitiveness through product differentiation because basic production costs are an important factor for competing on this basis as well.

Productivity is the essential link between overall production costs (Chapter VIII) and average cost per unit of output. This use of productivity is in contrast to some

discussions of competitiveness which use productivity as "the" indicator of competitiveness. In this study, specific productivity measures are yield per acre (fresh) and output per worker (processed).

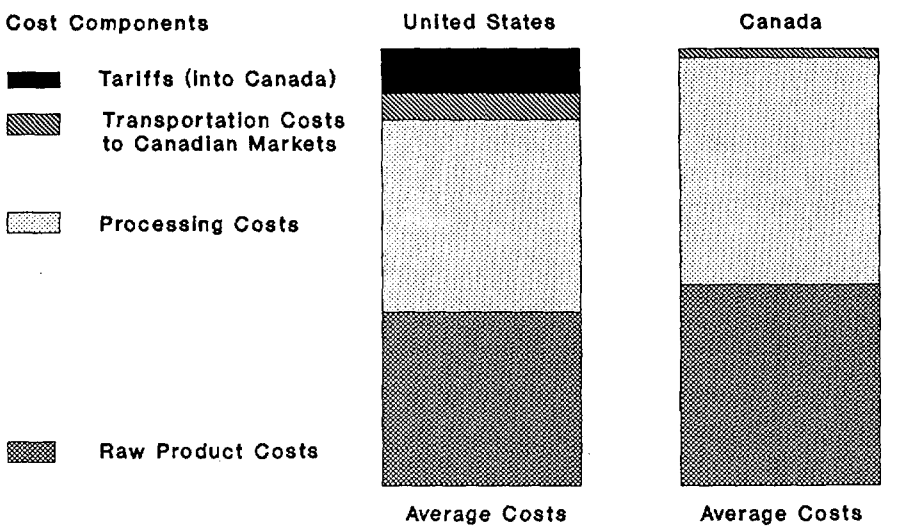
A primary indicator of competitiveness is average cost per unit of output. This indicator relates input costs (Chapter VIII) to output measures to estimate average cost per unit of output. For example, wage costs are not expressed in dollars per hour, but as costs per unit of production. In this process, wage rates that are higher in one jurisdiction may not mean that labour costs per unit of output will be higher for that jurisdiction. Producers or processors in the region with higher labour costs might have a more productive labour force or use it more efficiently because of differences in technology or management. Per unit labour costs might also be lower because of economies of scale or increased productivity. The Tribunal commissioned Price Waterhouse to estimate average costs per unit of output in Canada and the United States for the growing and processing of eight principal fruits and vegetables.

While average cost per unit of output provides an integrated approach to competitiveness analysis, it has some limitations. First, even if Canada had higher production and processing costs than in the United States, Canada could still be competitive in its own markets if the combined effects of transportation costs from the United States to Canada and the Canadian tariff were sufficient to offset any lower U.S. production and/or processing costs.

In Figure 9.1, a hypothetical graphical representation of "pricing to the tariff" shows how transportation costs and the tariff could offset potentially higher product and processing costs in Canada, leading to a competitive price for the Canadian product in this domestic market. In other words, the amount of transportation and tariff costs for the U.S. processors determines the amount by which Canadian processors' costs can exceed those of their U.S. competitors to remain cost competitive. In this figure, raw product costs are the total cost of obtaining and preparing produce for the processing operation. Processing costs are for supplies, labour and overhead.

FIGURE 9.1

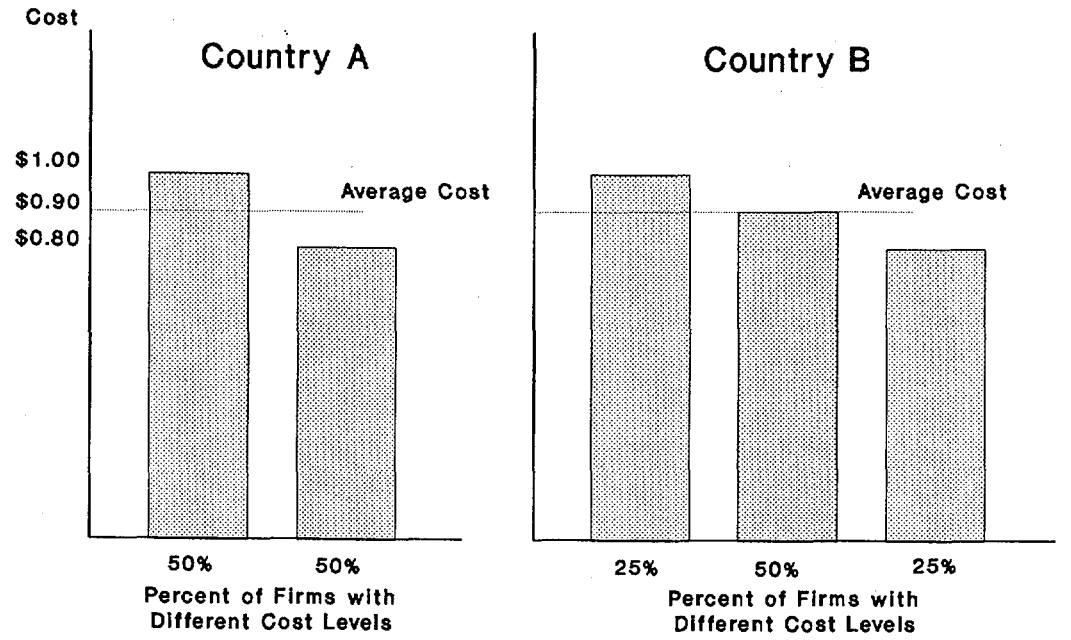
PRICING TO THE TARIFF: CANADA AND UNITED STATES FRUIT AND VEGETABLE PROCESSORS SALES IN THE CANADIAN MARKET (CAN$/unit)



The representation of costs in the figure assumes that processor production costs are higher in Canada than in the United States. Alternatively, the representation could assume that costs are lower in Canada than in the United States. In this latter case, processors would need to decide on the particular price that would maximize their preferred combination of higher profits and an increased volume of sales. They would also be able to consider the possibilities of exports into the U.S. market.

A second limitation to average cost per unit of output is that average costs do not reveal the cost profiles of individual firms within the industry. Figure 9.2 demonstrates this concept. Each country (A and B) may have an identical average cost for the industry (e.g., 90¢), but have quite different cost profiles among individual firms. The different profiles in the two countries mean that if the competitive price is 90¢, then only 50 percent of country A's firms will be competitive, whereas 75 percent of country B's firms will be competitive.

FIGURE 9.2
COST PROFILE WITHIN AN INDUSTRY SECTOR



Source: Price Waterhouse.

A third limitation is that if the competitive strategy of an industry is to compete through market or product differentiation or by focusing on a niche market, then the use of average cost per unit of output to assess the success of the strategy may be misleading. If the products are not really comparable, then the success of this strategy may not depend on having the lowest costs. In the case of relatively standardized agricultural commodities, however, this type of strategy may be difficult to pursue.

3. Productivity

Factor productivity represents the portion of total output due to each input factor such as labour, machinery and land. While total factor productivity is the preferred measure, the lack of the necessary official statistical information for the fruit and vegetable (and for most other) industries prevents the use of this measure which would have provided estimates of the relative contribution of each input factor to overall productivity. As a substitute for total factor productivity, it is common to measure and compare (particularly in industries with similar methods of production) the productivity of a single factor such as labour or land.

There are two frequently used measures of productivity for fruits and vegetables. In the case of growers, the production yield per acre or hectare provides a measure of the productivity of the combination of soil, climate, fertilizers, pesticides, labour, harvesting techniques, etc. Average production yields for the 13 principal fruit and vegetable crops are shown in Table 9.1. These yields are average measures for each crop over a 5-year period. They are also averages of the different yields of crops grown for

the fresh and the processed markets. For example, carrots grown for processing are usually allowed to become bigger (and heavier) than carrots grown for the fresh market. As a result, the yield per acre or hectare will be influenced by whether the crop is grown primarily for processing or the fresh market.

Average production yields are generally higher in the United States than in Canada, although there are several exceptions. While detailed research into the causes of the difference in yields was not undertaken by the Tribunal staff, the explanations for the higher yields in the United States most frequently provided were a longer growing season as well as less variation in temperature and in land quality. Consistent ripening across a production area makes it easier to schedule harvesting efficiently. A longer growing season enables producers to supply product to a processor over a longer period, which contributes to economies of scale for the processor. Testimony received by the Tribunal suggests that there is a wide variation in production yields among producers in Canada. The best producers in Canada typically have yields that are above the average in the United States and, in some areas, are equal to the top yields in the United States.

Table 9.1

FRUIT AND VEGETABLE PRODUCTION YIELDS, CANADA AND UNITED STATES
(tonnes per acre, average 1985-89)

(a) Vegetables Assessed by Price Waterhouse

	Potatoes	Tomatoes (fresh)	Tomatoes (proc.)	Corn (proc.)	Peas (proc.)	Beans (proc.)
Atlantic	11.7					
Quebec	8.8			4.5	1.5	2.7
Ontario	8.6	8.4	17.5	4.6	1.5	2.6
Prairies	9.5					
British Columbia						2.7
Wisconsin				4.7	1.3	2.8
California		12.4	27.2			
Ohio		8.6	21.2			
Washington	24.4					
Maine	12.4					
North Dakota	6.8					

(b) Vegetables Assessed by Tribunal Staff

	Mushrooms*	Carrots	Onions	Lettuce
Quebec		10.6	11.9	8.3
Ontario	3.7	21.1	15.0	
British Columbia	3.5			
California		16.9		14.4
New York			12.2	9.0
Michigan		11.7	12.6	
Pennsylvania	4.7			

(c) Fruits Assessed by Price Waterhouse

	Apples	Peaches	Pears
Quebec	5.9		
Ontario	6.6	5.1	5.3
British Columbia	9.6		5.4**
California		12.4	12.4
Washington	12.8		13.3
New York	6.9		
South Carolina		3.8	

* Pounds per square foot.
** Average based on fewer than five years.

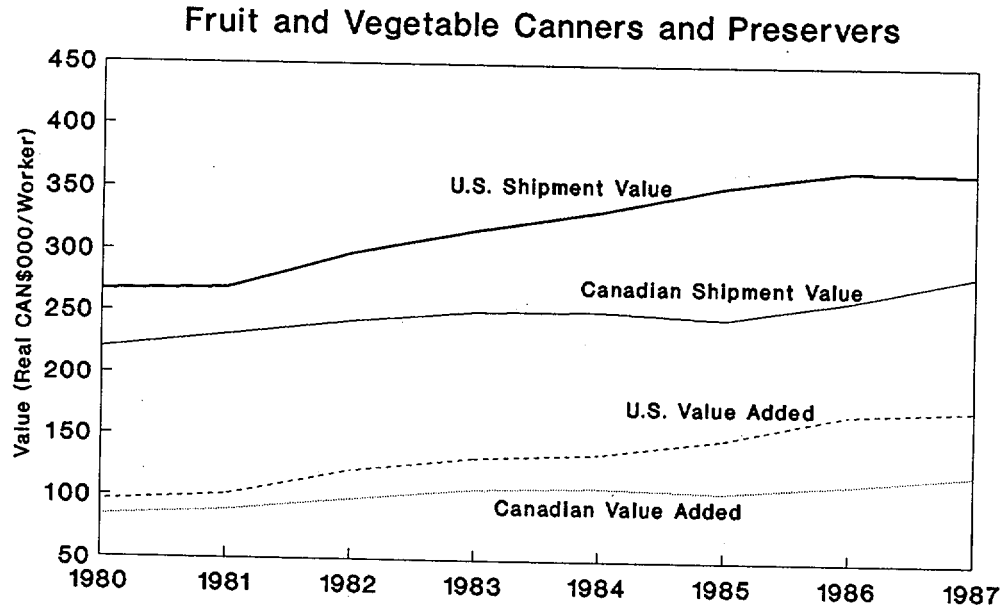
Source: Price Waterhouse and Statistics Canada.

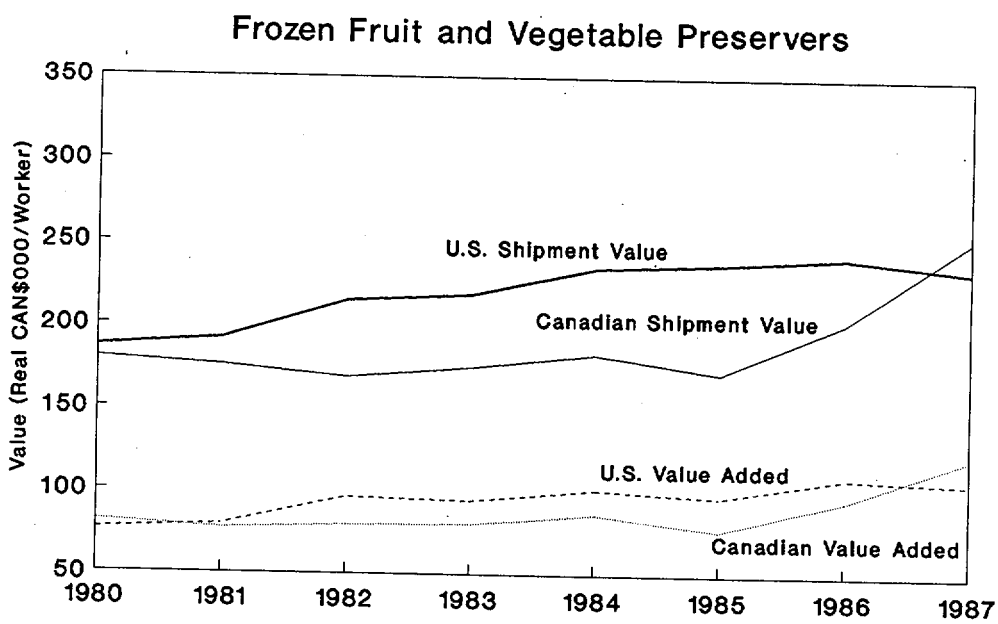
A second measure of productivity, which is most frequently used in the processing sector, is output per worker or labour productivity. It measures the ability of an industry to combine equipment, technology and a skilled workforce to produce output. Labour productivity is usually measured either as nominal or real (i.e., after removing the effects of price changes) output per worker. In the case studies prepared by Price Waterhouse for the Tribunal, labour productivity in Canada and the United States was estimated as the shipment value per worker and as value added (the value of shipments less the value of all inputs) per worker. The data are from the Census of Manufactures and are available through 1987.

For the fruit and vegetable canning industry, productivity appeared to be consistently lower in Canada than in the United States from 1980 to 1987 (Figure 9.3). The difference in the level of productivity in 1987 was 28 percent for shipments per worker and 43 percent for value added per worker.

A comparable analysis for frozen fruit and vegetable processors indicates that the level of productivity in Canada was above that in the United States in 1987, after being lower for the period from 1980 to 1986 (Figure 9.3). In 1987, productivity in Canada was 8 percent higher using the shipment per worker measure, and 14 percent higher using the value added per worker measure.

FIGURE 9.3
SHIPMENT VALUE AND VALUE ADDED PER WORKER
(1990 CAN$/Worker)





Source: Price Waterhouse.

Labour productivity may be combined with total labour costs to yield labour costs per unit of output. In the case of the fruit and vegetable canning industry in 1987 (the latest year for Census data on wages and productivity), although wage rates were lower in Canada than in the United States, the lower level of labour productivity in Canada more than offset Canada's wage cost advantage, leading to higher labour costs per unit of output in Canada. In 1987, wages as a percentage of shipment value were 9 percent in Canada and 7 percent in the United States (Figure 9.4).

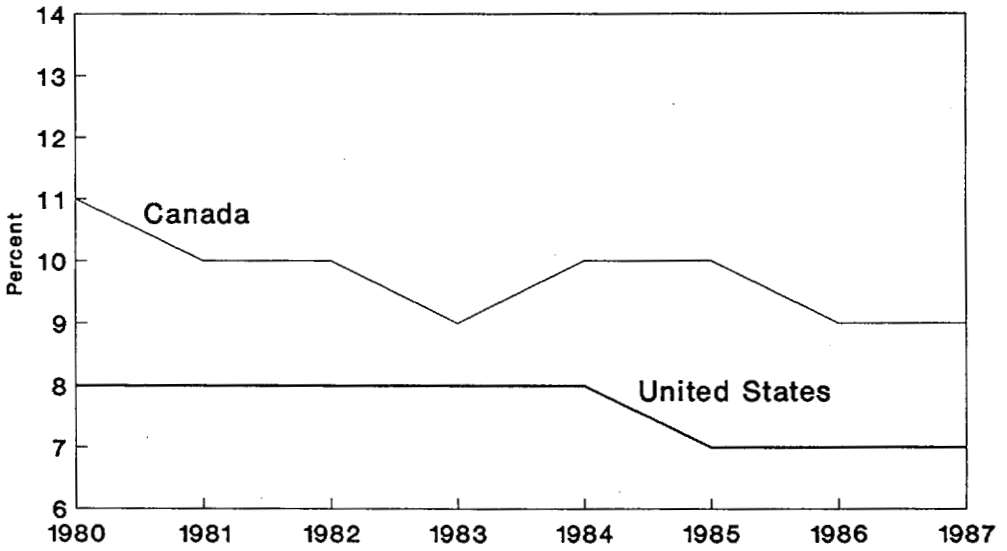
For frozen fruit and vegetable processors in 1987, the lower wage rates and the higher levels of productivity in Canada combined to produce significantly lower labour costs per unit of output than in the United States. Wages as a percentage of shipment value were 8 percent in Canada and 9 percent in the United States. (Figure 9.4).

The extension of the estimates of productivity and unit labour costs from 1987 to 1990 is not possible due to the lack of official data for this period. The submission from the OVGMB *et al.* reported, however, that "discussions with processors indicated that labour costs per unit of output are higher (than in the United States), which implies that the productivity of inputs, including labour, is lower." This view would indicate no change in the trend of unit labour costs for canners, but a possible reversal of the 1987 lower-cost situation for frozen processing. The data on wage rates in the processing industry (Chapter VIII) indicated that Canadian wages in U.S. dollars have become higher than in the United States since 1987 by a gradually increasing margin. The estimates suggested that early in 1991, the total cost of hourly compensation, adjusted for the exchange rate, is 3 percent higher in Canada than in the United States.

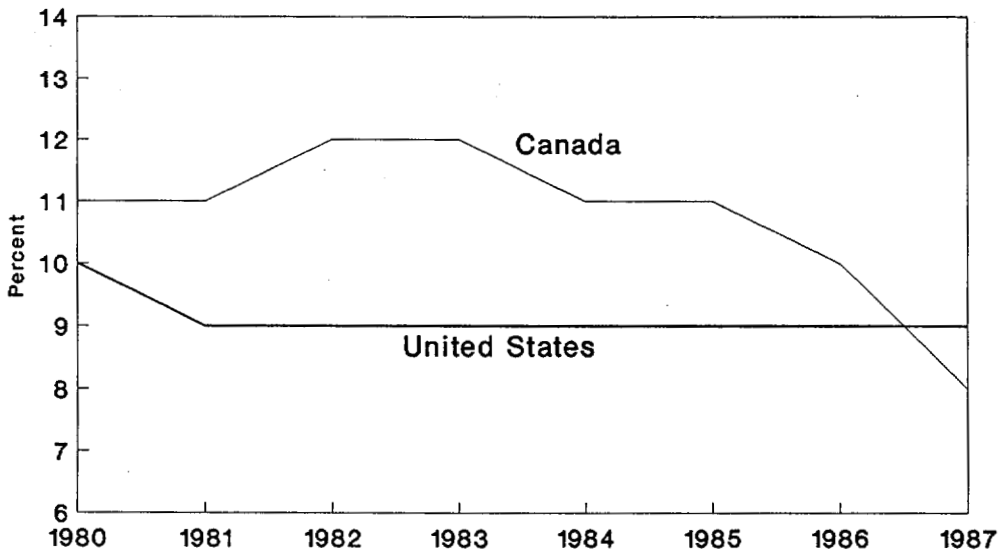
FIGURE 9.4

WAGES AS PERCENT OF SHIPMENT VALUE

Fruit and Vegetable Canners and Preservers



Frozen Fruit and Vegetable Preservers



Source: Price Waterhouse.

4. Assessment of Cost Competitiveness

(a) Growers

The data in Table 9.2 show the average cost of production per acre, yield and average cost per tonne for growing 6 vegetable crops in various provinces and states in 1989. The data in Table 9.3 show similar data for 5 fruit crops in 1989. The data on average production cost per acre are generally consistent with the conclusion reached in Chapter VIII that total production costs for growers are higher in Canada than in the United States, mainly due to differences in the cost of pesticides, fuel and interest rates. In some states where there are higher costs per acre (e.g., potatoes in the State of Washington and Maine as well as pears in the State of Washington), the higher costs are frequently offset by higher yields, with the result that average costs per tonne are usually lower in the United States. The data on yields in the two tables for the 11 crops in 1989 are also consistent with the observation in the section on productivity earlier in this chapter: crop yields are generally higher in the United States than in Canada.

The estimates for average cost per unit of output are derived by dividing the average cost of production per acre by yield per acre. This process allocates the total cost of producing a crop over the size of the crop. For some geographical areas, the calculation of average cost per tonne alters the relative cost position of the area. As shown in Table 9.2, the State of Washington moves from the highest average production cost for potatoes to the lowest average cost per tonne of output. In Table 9.3, the ranking of the State of Washington for the production of apples is similarly reversed. In other areas such as New Brunswick and Prince Edward Island, however, the relative ranking for the production of potatoes is virtually unchanged.

Differences in average cost per tonne do not necessarily imply that the growers with the higher cost are not competitive, particularly in their home market. The negotiations between the growers and processors to establish raw product prices for processing normally take into account the transportation and tariff charges for the finished product from the nearest competing plant. As a result, the estimates of average cost per tonne of output in the United States should be adjusted upwards to reflect transportation and tariff charges.

The data in Table 9.4 show the effect of adjusting the 1989 average cost per tonne of output to reflect the separate impacts of transportation and tariff charges required to bring the U.S. processed product into Canada. These adjustment factors were derived from the costs of moving U.S. processed product into the Canadian market, as estimated in the product case studies prepared by Price Waterhouse. These adjustments have been shown separately to allow the reader to remove the effects of tariffs, which will be eliminated by 1998. In the case of tomatoes, for example, the adjusted cost of Ohio tomatoes for processing, delivered into Ontario with no tariffs, would be $116 per tonne.

In interpreting the results in Table 9.4, the Tribunal realized that the data represent the production for large geographical areas for a particular year. Some allowance should be made for differences in the underlying statistical methodologies, crop types and varying emphasis between production for the fresh and processed market. In comparing the adjusted cost per tonne for two competing areas, if the cost difference was less than 10 percent, then the crop costs were viewed as similar.

After the adjustment for transportation and tariff costs, Canadian growers in 1989 had similar or lower average costs in 7 of the 9 crop comparisons, as shown in Table 9.4.

The favourable cost comparisons for Canadian growers included all the vegetable products and apples. However, the Canadian production costs for peaches and pears were significantly higher than in the United States, even after adjusting for transportation and tariffs.

The comparisons for peas, beans, corn and tomatoes in Table 9.4 are consistent with the submission that the OVGMB made to the Tribunal at the hearing in September. In the submission, the OVGMB claimed that the cost of peas, beans, corn and tomatoes for processors in Ontario is "competitive" with the cost for the nearest U.S. competitors.

Looking at the longer term, Canadian producers must bring their costs down at least as fast as tariffs if they are to maintain or improve their competitiveness with their U.S. counterparts. The amount of cost reduction required, however, will depend on the extent of concurrent changes in other factors such as transportation costs, production technologies and the Canadian exchange rate. The competitive challenge also includes recognizing that our competitors are not standing still, but are keen to improve their competitiveness.

Table 9.2

AVERAGE COST PER TONNE: VEGETABLE GROWERS, 1989
CANADA AND THE UNITED STATES

(CAN$)

	Average Cost of Production ($/acre)	Yield (tonne/acre)	Average Cost* ($/tonne)
Potatoes- Processing			
Ontario	1,303	10.8	121
Maine	1,735	14.5	120
New Brunswick	1,129	10.9	104
Washington	1,867	27.2	69
Potatoes - Table			
Ontario	1,051	7.7	136
Maine	1,803	13.5	134
Prince Edward Island	1,548	11.6	133
Quebec	1,133	9.3	122
North Dakota	765	7.0	109
Alberta	937	10.0	94
Tomatoes - Processing**			
Ontario	2,031	18.0	113
Ohio	1,966	20.0	98
California	1,760	28.0	63
Peas - Processing			
Ontario	499	1.3	384
Quebec	552	1.5	368
Wisconsin	456	1.4	326
Green and Wax Beans - Processing			
Wisconsin	674	3.2	211
Ontario	498	2.5	199
Quebec	690	3.8	182
Sweet Corn - Processing			
Quebec	484	4.4	110
Ontario	359	4.6	78
Wisconsin	405	5.4	75

* Farm gate costs (does not include costs for tariffs or transportation).
** These costs, and particularly yields, include tomatoes for whole pack, juice and paste which differ from region to region. Paste prices are generally lower than whole-pack prices.

Source: Price Waterhouse Commodity Exhibits.

Table 9.3

AVERAGE COST PER TONNE: FRUIT GROWERS, 1989
CANADA AND THE UNITED STATES

(CAN$)

	Average Cost of Production ($/acre)	Yield (tonne/acre)	Average Cost* ($/tonne)
Apples - Table			
Quebec	2,032	6.8	299
Nova Scotia	1,553	6.2	250
New York	1,689	8.0	211
British Columbia	2,811	13.4	210
Ontario	1,977	9.5	208
Washington	2,963	14.3	207
Peaches - Processing			
Ontario	3,865	6.4	604
California	3,261	14.3	228
Peaches - Table			
Ontario	5,387	6.4	842
South Carolina	4,081	6.9	591
Pears - Processing			
Ontario	2,002	3.6	556
California	3,259	15.4	212
Washington	3,832	18.1	212
Pears - Table			
Ontario	1,967	3.6	546
British Columbia	3,069	11.3	272

* Farm gate costs (does not include costs for tariffs or transportation).

Source: Price Waterhouse Commodity Exhibits.

Table 9.4

COMPARISON OF COST COMPETITIVENESS FOR GROWERS OF PROCESSING CROPS, 1989 CANADA AND THE UNITED STATES

(CAN$/tonne)

	Average Cost	Adjustments* For Transportation	Adjustments* For Tariffs	Adjusted Cost
Potatoes				
New Brunswick	104	0	0	104
Maine	120	10	10	140
Tomatoes				
Ontario	113	0	0	113
Ohio	98	18	11	127
Peas				
Ontario	384	0	0	384
Wisconsin	326	34	37	397
Beans				
Quebec	182	0	0	182
Wisconsin	211	25	13	249
Corn				
Ontario	78	0	0	78
Wisconsin	75	6	8	89
Apples				
British Columbia	224	0	0	224
Washington	201	25	17	243
Ontario	208	0	0	208
New York	211	25	17	253
Peaches				
Ontario	604	0	0	604
California	228	36	20	284
Pears				
Ontario	556	0	0	556
Washington	212	34	19	265

* Adjustments approximate the impact of transportation and tariff charges on the F.O.B. cost of U.S. processed products delivered into the competing Canadian province, based on data provided by Price Waterhouse.

Source: Price Waterhouse Commodity Exhibits and the Tribunal.

(b) Processors

The estimates of the delivered price in Canada for selected processed fruits and vegetables are shown in Table 9.5. The estimates were prepared by Price Waterhouse as part of the case studies commissioned by the Tribunal. Estimates are shown for 11 products processed from 6 of the 8 commodities under study. (See Appendix C for a review of the process used to select commodities and geographical locations). Specific cost estimates for processed peaches and pears were not included in their report because data were available for only one processor.

In Table 9.5, the comparison of the estimated price delivered in Canada for the products produced in both countries indicates that the price is lower in 6 of the 11 cases, with the Canadian advantage for these products ranging from 5 percent to 30 percent. Based on these estimates, Canada has a cost advantage in the production of canned and frozen beans, potato chips,[1] frozen french fries, apple juice and apple sauce. Moreover, the Canadian price for tomato paste is less than 2.5 percent higher than the U.S. price, suggesting similar competitiveness. For the remaining 4 products, the Canadian price is 5 percent to 10 percent higher than the U.S. price.

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1. While there appears to be a cost advantage for Canadian processors of potato chips, the domestic industry may have higher marketing expenses than U.S. processors in the Canadian market. The Canadian processors provide marketing services to a wide range of stores and locations while the U.S. processors tend to focus on supermarkets in large cities.

Table 9.5

COMPARISON* OF DELIVERED PRICE IN CANADA FOR SELECTED PROCESSED FRUITS AND VEGETABLES

(CAN$)

	Canada	United States	Canadian Cost Advantage (%)	U.S. Cost Advantage (%)
Non-frozen Processing				
Canned Peas (24 x 14 oz. cans)	12.30	11.26		8.5
Canned Beans (24 x 14 oz. cans)	9.18	9.65	5.1	
Canned Corn (24 x 14 oz. cans)	10.80	9.72		10.0
Potato Chips (200 g bag)	0.64	0.69	7.8	
Tomato Paste (per lb.)	0.44	0.43		2.3
Apple Juice (12 x 48 oz. cans)	9.70	11.13	14.7	
Apple Sauce (24 x 14 oz. cans)	11.20	11.92	6.4	
Frozen Processing				
Frozen Peas (12-1 kg packs)	14.54	13.83		4.9
Frozen Beans (12-1 kg packs)	12.29	14.83	20.7	
Frozen Corn (12-1 kg packs)	12.89	12.21		5.3
Frozen French Fries (6 x 5 lb. bags)	8.87	11.50	29.7	

* U.S. Price (including costs of transportation and tariffs into Canada) compared to Canadian Price.

Source: Price Waterhouse Commodity Exhibits.

(c) Overview of Market Share

A primary indicator of competitiveness is the Canadian producers' share of the domestic market or the commodity market share. This indicator uses total "industry" data for each commodity rather than data for a firm or group of firms selling the particular commodity. Related share indicators include imports as a percentage share of domestic production and exports as a percentage share of domestic production. In general, if a product is competitive, then its market share should rise or at least remain constant. If a product is not competitive, then its market share should decline.

Data on the above three share measures for the principal vegetable and fruit products under study are set out in Table 9.6 (for the fresh market) and Table 9.7 (for processing). The growth rates in *per capita* consumption and in production are also

included in the table. An estimate of these measures for total vegetables and total fruits is also provided.

The data for fresh vegetables suggest that total Canadian vegetable production in the 1980s was competitive. Despite the slow growth (1.9 percent) in consumption during the decade, production grew by 5.5 percent over this period. This production growth was used to expand exports and to supply the growing domestic market. The producers' share of the domestic market was unchanged between the first and second half of the decade at 75 percent.

The data for fresh fruits suggest some loss in competitiveness in the 1980s. *Per capita* consumption declined by 1.8 percent while domestic production fell by 5.3 percent. Imports increased sharply to fill the gap between consumption and production. Exports as a share of production declined marginally during the decade. The producers' share of the domestic market fell 4 percentage points during the decade.

Table 9.6

FRESH FRUITS AND VEGETABLES MARKET STATISTICS

	Per Capita Consumption	Production	Imports as a % of Production		Exports as a % of Production		Canadian Producers' Share of the Domestic Market	
	% Change*	% Change*	1980-84	1985-88	1980-84	1985-88	1980-84	1985-88
Vegetables								
Potatoes	1.6	4.5	8	9	18	18	91	89
Mushrooms(1)	36.4	47.0	7	11	1	2	93	90
Tomatoes	(2.3)	22.0	220	170	1	3	31	36
Corn	18.7	23.6	32	30	0	0	76	77
Carrots	0.0	(3.2)	25	32	24	24	75	70
Lettuce	0.0	14.3	473	420	10	8	16	18
Beans(2)	0.0	1.3	95	123	0	15	51	44
Total Vegetables	1.9	5.5	27	28	17	17	75	74
Fruits								
Apples	(3.2)	(7.3)	35	43	24	23	69	64
Peaches	(9.1)	15.0	80	53	0	1	55	65
Pears	15.0	(7.5)	146	216	4	2	40	31
Total Fruits	(1.8)	(5.3)	46	55	20	19	64	60

* Percent change from average for 1980-84 to average for 1985-88.
(1) Averages are 1985-89.
(2) Beans, fresh exports are for 1988 only.

Source: Fresh Fruits and Vegetables Profile, the Tribunal.

The data in Table 9.7 suggest that vegetables for processing were competitive during the 1980s. Production grew by 12.5 percent compared to *per capita* consumption growth of 1.3 percent. The strong growth in production led to a decline in imports as a share of production and to a rise in exports as a share of production. The overall producer share of the Canadian market rose marginally during the decade.

During the 1980s, *per capita* consumption of fruit for processing (mainly for juices) rose 13.9 percent, more than double the growth rate for production. While imports as a share of production rose rapidly, exports as a share of production also increased. On balance, the producers' share of the domestic market for fruit for processing fell 6 percentage points during the decade.

Table 9.7

FRUITS AND VEGETABLES FOR PROCESSING MARKET STATISTICS

	Per Capita Consumption	Production	Imports as a % of Production		Exports as a % of Production		Canadian Producers' Share of the Domestic Market	
	% Change*	% Change*	1980-84	1985-88	1980-84	1985-88	1980-84	1985-88
Vegetables								
Potatoes	3.5	17.9	2	3	10	19	97	96
Mushrooms(1)	(5.6)	17.2	311	247	2	6	24	28
Tomatoes	(0.7)	10.2	54	46	1	2	65	68
Corn	0.0	0.4	4	4	26	23	95	96
Carrots(2)	38.9	36.3	13	15	0	0	89	87
Green Peas	(16.0)	(13.4)	4	6	11	12	96	93
Beans	(13.3)	(6.9)	5	3	7	13	95	96
Total Vegetables	1.3	12.5	18	15	9	14	84	85
Fruits								
Apples	16.3	7.4	94	119	9	11	49	43
Peaches(3)	0.0	47.0	496	337	0	8	17	23
Pears	(14.3)	(35.2)	72	141	1	1	58	41
Total Fruits	13.9	6.2	102	127	8	11	47	41

* Percent change from average for 1980-84 to average for 1985-88.
(1) Averages are 1985-89.
(2) Carrot exports reflect an 1985-87 average.
(3) Peach exports are for 1988 only.

Source: Fresh Fruit and Vegetable Profile, the Tribunal.

(d) Market Share by Commodity

Current market share data for processed products that could be used to assess competitiveness are not available. An indirect assessment of the competitiveness of processed products can be carried out, however, using the commodity market share data shown in Table 9.7 for fruit and vegetable destined to processors. The data in Table 9.7 on produce for processing generally support the competitiveness assessment based on average cost per unit of output. Potato producers continue to hold a high share of the domestic market and have increased exports as a share of production; tomato producers have increased their share of the domestic market, leading to a loss in imports as a share of production; bean and corn producers have marginally increased their share of the domestic market; pear producers have lost market share.

On the other hand, market share data for apples and peaches for processing do not directly support the conclusion on competitiveness based on average cost per unit of output for processed products. Further reference to the data on market shares suggests that the growing of apples in Canada is indeed competitive with the United States. The Canadian market share for apples in 1987 and 1988 indicates a competitive industry that rebounded from a significant loss in share due to a poor crop in 1986 (which lowered the average market share for 1985 to 1988 in Tables 9.6 and 9.7). On the other hand, the rise in market share for peaches, albeit from a low level, when average production costs are much higher in Canada than in the United States (even after allowing for transportation costs and the tariff into Canada), may indicate that the tenderness of a peach, especially while being transported, limits the competitiveness of imports.

5. Competitive Challenges to the Domestic Industry

(a) Higher costs generated by the Canadian economy

The analysis of production costs for growers and processors in Chapter VIII indicated that the costs of the major components of production are generally higher in Canada than in the United States. Some of these higher costs are generated in the domestic economy at large and are not specific to the domestic fruit and vegetable industry. Important examples would include rising wage rates and rising packaging costs. If cost increases for these important components of production increase at a faster rate than in the United States, then the domestic industry may become less competitive. Employers could avoid paying the higher wage rates by substituting a lower priced worker, but this approach may lead to lower labour productivity.

(b) Government imposed higher costs

The analysis of production costs in Chapter VIII also indicated that pesticide, fuel and interest costs are higher in Canada than in the United States. Pesticide availability is mainly determined by Government policy, and availability in turn affects prices for the range of allowable pesticides. The lack of availability of a particular pesticide in Canada may lower the crop yield relative to the U.S. crop that was grown with the aid of that pesticide. Fuel costs in Canada include a larger tax component in Canada than in the United States. While a portion of the tax is rebated by governments to growers, the net price to growers is clearly higher in Canada than in the United States. Interest costs during the 1980s were generally higher in Canada than in the United States with the spread in the prime rate averaging 1.25 percentage points in favour of the U.S. rate. For a grower with an average amount of debt, this interest rate differential costs about $1250 per year. Processors also face higher interest charges than their U.S. competitors.

(c) Insufficient emphasis on productivity

The review of productivity earlier in this chapter indicated that both grower productivity (yield per acre) and processor productivity (output per worker) are generally lower in Canada than in the United States. Lower land productivity is partially due to the shorter growing season and to wider variation in temperature and land quality. Despite these constraints, many growers are able to match or exceed yields in nearby states by improving production techniques and updating machinery and equipment.

Labour productivity in the canning industry lagged behind that in the U.S. industry, based on the latest official annual data available. On the other hand,

productivity in the frozen fruit and vegetable industry rose above the level in the United States. Industry observers indicated to the Tribunal that the strong productivity performance in the frozen fruit and vegetable industry was due mainly to aggressive investment in modern plants and technology.

Productivity is an essential component of competitiveness. It is the link between the cost of production and the cost per unit of output. The higher the level of productivity, the lower the cost per unit of output. Higher productivity requires an investment in new equipment, up-to-date technology and management techniques, and skilled workers.

(d) Lack of export orientation

While the Tribunal talked with many growers and processors who were strongly export oriented, in general the industry aims mainly at serving the domestic market. Commodity data published by Statistics Canada confirm this impression (see Tables 9.6 and 9.7). Reasons cited for the lack of export orientation by growers include the lateness of the Canadian crop relative to the U.S. crop; an inability to put together a sufficiently large minimum quantity of domestic produce to convince major buyers in the United States to purchase; and the "high" exchange rate. Reasons cited for the lack of export orientation by processors include a lack of cost competitiveness due to the exchange rate; the significant expense of marketing outside Canada; and the lack of mandates within multinational firms to export to some countries.

Increased exports together with maintaining domestic market share would increase production levels. For both growers and processors, the higher level of production would provide an opportunity for increased economies of scale, higher productivity and lower costs per unit of output.

(e) Weak marketing strategies

Chapter V reviewed recent independent assessments of marketing strategies used by growers. The studies found that there were several features of successful marketing: produce is grown for a specific market; timely information on market requirements is readily available; product pricing and delivery is aimed at adjusting supply to demand; selling is centralized with minimal direct grower involvement; and growers are encouraged to co-operate to improve their competitive position.

Testimony at our hearings and information acquired during visits, however, indicated to the Tribunal that these important marketing strategies are weak or missing in many parts of the domestic industry.

(f) Declining protection for the domestic industry

The decline in tariffs as part of CUSTA is reducing the protection for the domestic processing (and producing) industry. Protection in the form of tariffs and transportation costs represent an offset to the higher cost of production in Canada. Further declines in protection must be matched by a corresponding decrease in Canadian costs if Canadian growers and processors are to remain competitive at least in their home market with U.S. imports.

6. Success Stories

During the inquiry process, the Tribunal learned about many organizations that were successful in the late 1980s and in 1990. A representative set of the many success stories are summarized in this section. The focus for the Tribunal was on the lessons to be learned for competitiveness rather than on the specific people involved in the endeavour.

A small potato growing and packing enterprise in the Maritimes doubled its acreage in the 1980s to 1,500 acres and markets potatoes grown by others on 350 acres.

- Productivity gains are achieved through the use of the latest technology in packing and harvesting.
- Quality control is handled by a full-time specialist.
- Consistently sized product is supplied to a growing list of customers.
- Product differentiation is achieved through developing and emphasizing a specific variety of product.
- Marketing of products is aimed at major markets through a hired professional marketing association.

A shipping company was formed three years ago in Quebec. Produce is obtained from grower members and other growers to form mixed loads for markets in Quebec, Ontario, the Maritimes and various U.S. cities.

- Production, cooling and packaging of lettuce and celery uses the latest technology.
- Quality control and marketing services are provided through hiring outside expertise.
- New market targeting is selective through trying to organize joint ventures with other selling organizations, avoiding markets now adequately supplied.
- Marketing expansion is encouraged through advertising locally, at trade shows and on trade missions.
- New product development is aimed at value-added products such as wrapped lettuce.

A greenhouse growers cooperative in British Columbia grades, packs, markets and sells a variety of greenhouse-grown products.

- Production expertise and quality emphasis is provided by greenhouse producers.
- Promotion of product is developed through brand identity and marketing is carried out by professionals.
- Cooperative competes with other producing areas rather than among members which generally raises member returns.

A frozen vegetable processor in Ontario is growing at an annual rate of over 10 percent since its establishment in the mid-1980s.

- Marketing is diversified within Ontario, using house, private and controlled labels.
- Export sales are an important focus and source of growth.
- Close control over costs has enabled the processor to gain market share.

A vegetable producers' marketing board in the Prairies operates as a single desk selling agency for storable vegetables and one-half of the perishable vegetables grown in its home province.

- Steady, reliable supply of product is offered nearly year round due to sophisticated storage facilities.
- Marketing and selling is handled by professional employees.
- Some export capabilities are being developed.
- Pricing is designed to be competitive with imported produce.
- Central selling desk reduces the incidence of individual price cutting and generally improves returns to growers.

A potato processor in the Prairies is expanding its production of various products.

- Up-to-date technology for processing.
- Quality control of production.
- Competing with another nearby processor.
- Export sales are a source of growth.
- Working with customers to match products to needs.
- Developing a strong two-way relationship with growers.

On the basis of the hearings and visits, the Tribunal learned first hand about many Canadian growers and processors who are competitive. The major characteristics of their successful operations include: achieving productivity gains through scale and efficiency investments; quality control of production; product differentiation; obtaining professional marketing assistance; expanding into export markets; achieving consistency and predictability in the supply of product; facing strong competition and working with customers to match products to needs.

CHAPTER X

HORTICULTURAL TRADE WITH MEXICO

Chapter Highlights

- By comparison with the United States, overall Mexican exports of fruits and vegetables to the Canadian market are small. They are highly concentrated and take place mostly during the domestic off-season when they compete with U.S. exports.
- NAFTA is expected to affect significantly the level of U.S. horticultural trade with Mexico because duties in both countries are high and numerous non-tariff barriers limit bilateral trade. NAFTA should have a lesser impact on Canada because most imports of fresh Mexican produce occur at duty-free rates.
- Mexican exports of processed horticultural products to Canada are likely to increase, either directly or through substitution with other processed food products. However, transportation costs will act as an impediment to the entry of Mexican processed products into the Canadian market.
- In the short term, Canadian horticultural exports to Mexico are unlikely to increase much. In the long run, with a growing Mexican market, Canadian growers and processors may be able to capture a larger share of that market.

1. Introduction

In June 1990, the Presidents of the United States and Mexico issued a declaration of mutual commitment to the negotiation of a bilateral free trade agreement. Six months later, in December 1990, Canada was invited to join the free trade negotiations, and the mandate was broadened to a comprehensive North American Free Trade Agreement (NAFTA). Canada accepted this invitation in February 1991.

Representatives of the Canadian food processing sector generally see trade with Mexico under NAFTA as an opportunity to bring lower cost inputs into the country. Fruit and vegetable producers expressed some concerns regarding slow progress on such Canada-U.S. Trade Agreement (CUSTA) related issues as pesticides, harmonization, rules of origin and accreditation. They would like these issues to be resolved and addressed within NAFTA. In addition, in their opinion, NAFTA should capitalize on the positive elements already found in CUSTA.

Given the Government's decision to enter into negotiations with the United States and Mexico, the objective of this chapter is to provide information on fresh and processed fruit and vegetable trade between the three trading partners, with emphasis on Canada-Mexico trade. The chapter also examines the likely impact of enhanced Mexican access under NAFTA on the Canadian horticultural industry.

2. Size of Two-Way Trade

Table 10.1 compares the size of two-way trade between Canada and the United States, Canada and Mexico, and the United States and Mexico.[1] Trade is expressed in terms of imports into each country. Imports are more likely than exports to accurately portray the flow of trade from one country to another as, in general, countries tend to be more diligent in recording imports than exports.[2] The key observation from Table 10.1 is that Mexico is a far larger supplier (by a factor of over 4) of horticultural products to the United States than is Canada.

The data in Table 10.1 also show that two-way trade between Canada and the United States is far larger than even the combined two-way trade between the United States and Mexico, and Canada and Mexico. This is true in aggregate, and for all categories except vegetables. In the case of vegetables, two-way trade between Canada and United States is about 3 percent lower than that for the United States and Mexico. Overall, two-way Canada and United States trade is about one and one-half times the size of United States and Mexico two-way trade and about 24 times the size of Canada and Mexico two-way trade.

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1. The data presented in this chapter is organized under the Harmonized System (H.S.) of trade data classification. This approach has the advantage that data at the 6-digit H.S. commodity level are identical in definition across the three countries. The relevant chapters of the H.S. are: Chapter 7 - Edible Vegetables and Certain Roots and Tubers; Chapter 8 - Edible Fruit and Nuts, Peel of Citrus Fruit or Melons; and Chapter 20 - Preparations of Vegetables, Fruit, Nuts or Other Parts of Plants.
2. Witness the recent Canada-United States arrangement whereby each country accepts the import statistics of the other as its own export statistics.

Table 10.1

TWO-WAY TRADE IN FRESH AND PROCESSED FRUITS AND VEGETABLES, 1989[3]

(CAN$000)

	Chapter 7 Vegetables	Chapter 8 Fruits	Chapter 20 Processed	Total
Canada - United States				
Canadian imports from the U.S.	721,818	701,972	270,648	1,694,438
U.S. imports from Canada	156,598	65,434	68,241	290,273
Total	878,416	767,406	338,889	1,984,711
Canadian Trade Balance	(565,220)	(636,538)	(202,407)	(1,404,165)
Canada - Mexico				
Canadian imports from Mexico	41,703	29,931	6,965	78,599
Mexican imports from Canada	4,193	84	229	4,506
Total	45,896	30,015	7,194	83,105
Canadian Trade Balance	(37,510)	(29,847)	(6,736)	(74,093)
United States - Mexico				
U.S. imports from Mexico	818,341	267,917	150,751	1,237,009
Mexican imports from the U.S.	88,716	23,581	22,031	134,329
Total	907,057	291,498	172,782	1,371,338
U.S. Trade Balance	(729,625)	(244,336)	(128,720)	(1,102,680)

Source: Statistics Canada, Cat. No. 65-203, Imports, Merchandise Trade (HS Based), 1989.
U.S. Department of Commerce, Bureau of the Census, Catalogue No. FT 247, U.S. Imports for Consumption, 1989.
Mexican Imports, computer diskette supplied to the Tribunal by Agriculture Canada.

3. Canadian Imports of Fresh and Processed Fruits and Vegetables

This section begins with a comparison of Canadian imports, from the United States and Mexico, of the ten most important fresh and processed fruit and vegetable products imported into Canada in terms of value. Following this, the ten largest Canadian imports from Mexico are examined in detail. Finally, the monthly flows of selected Canadian fresh produce imports are examined. All data are for the year 1989.

3. As of October 1991, complete data for the three countries were not available for 1990.

(a) The Major Processed and Fresh Produce Imports

The 10 most important imported vegetable products accounted for $566.2 million of the $826.6 million (or 68.5 percent) of all vegetables imported into Canada (Table 10.2). The United States supplied 92.2 percent of the "top 10" imported vegetables and about 87.3 percent of all vegetables imported into Canada. In contrast, Mexico supplied just over 5 percent of Canadian vegetable imports and only 4.6 percent of the 10 most important group.

U.S. domination of Canada's fruit imports was less pronounced than was the case for vegetables. The United States supplied only 57.3 percent of the ten largest fruit imports and 61.9 percent of all fruit imports. However, the United States is still the principal supplier of 8 of the 10 commodities contained in the top 10 groups (with over 50 percent market share in 7 of the 10 categories). Mexico supplied 2.4 percent of the top 10 fruit imports and 2.6 percent of all fruit imports into Canada in 1989.

Table 10.2

COMPARISON OF TOP 10 FRESH AND PROCESSED FRUIT AND VEGETABLE IMPORTS INTO CANADA, BY SOURCE, 1989

(CAN$ million)

Rank	Commodity	All Sources	From the U.S.	% Share	From Mexico	% Share
	Vegetables					
1	Tomatoes	121.4	107.0	88.1	10.1	8.3
2	Head Lettuce	80.7	80.3	99.6	0.2	0.3
3	Table Potatoes	74.2	74.2	100.0	0.0	0.0
4	Peppers	57.2	41.8	73.2	7.3	12.8
5	Cabbage	52.8	50.8	96.3	0.9	1.7
6	Other Vegetables	38.8	32.6	83.8	3.4	8.8
7	Celery	38.6	38.4	99.4	0.1	0.3
8	Onions & Shallots	36.7	31.9	87.1	3.6	9.8
9	Cauliflower/Broccoli	33.8	33.4	98.8	0.2	0.6
10	Other Lettuce	32.0	31.7	99.2	0.2	0.7
	Top 10 Vegetables	566.2	522.2	92.2	26.1	4.6
	All Vegetables	826.6	721.8	87.3	41.7	5.0
	Fruits					
1	Grapes	185.3	127.5	68.8	2.2	1.2
2	Bananas & Plantains	152.1	0.4	0.2	7.9	5.2
3	Oranges	116.0	102.2	88.1	0.1	0.1
4	Apples	74.5	50.5	68.7	0.0	0.0
5	Melons	72.3	59.2	81.9	8.9	12.3
6	Mandarins, etc.	68.4	8.8	12.9	0.1	0.2
7	Peaches/Nectarines	54.9	47.5	86.6	0.2	0.3
8	Dried Grapes	52.0	23.8	45.9	1.4	2.6
9	Strawberries	49.5	48.6	98.4	0.3	0.6
10	Pears & Quinces	41.1	27.3	66.0	0.0	0.0
	Top 10 Fruits	865.0	495.7	57.3	21.1	2.4
	All Fruits	1,134.9	702.0	61.9	29.9	2.6
	Processed Fruits and Vegetables					
1	Frozen Orange Juice	181.9	80.8	44.4	0.5	0.3
2	Mushrooms, Preserved	42.6	0.8	1.8	0.0	0.0
3	Other Tomatoes, Preserved	41.4	16.7	40.4	4.5	10.9
4	Apple Juice	28.3	7.3	25.6	0.0	0.0
5	Pineapples nes, Preserved	23.3	2.6	11.0	0.0	0.0
6	Grape Juice	22.2	15.8	71.0	0.0	0.0
7	Fruit Mixtures nes, Preserved	21.5	7.5	35.0	0.0	0.0
8	Whole Tomatoes, Preserved	20.2	3.4	16.8	0.0	0.0
9	Peaches nes, Preserved	19.2	2.2	11.5	0.0	0.0
10	Jams, Jellies, etc.	18.8	7.8	41.3	0.0	0.0
	Top 10 Processed	419.6	144.8	34.5	5.0	1.2
	All Processed	594.8	270.6	45.5	7.0	1.2

Source: Statistics Canada, Catalogue No. 65-203, Imports, Merchandise Trade (HS Based), 1989.

The United States faces the stiffest competition for exports to Canada in the area of processed fruits and vegetables. Nonetheless, the United States is still the major supplier, supplying 45.5 percent of all imports in this category. The United States is less dominant in the top 10 groups for processed goods, with an import share of about 34.5 percent. Mexico supplied 1.2 percent of all processed fruit and vegetable imports and 1.2 percent of the 10 most important imports in the processed category in terms of value.

With few exceptions (bananas and mandarin-type oranges), the United States is Canada's principal supplier of fresh fruits and vegetables. For six products (head lettuce, other lettuce, table potatoes, cauliflower and headed broccoli, celery and strawberries), the United States is virtually the sole supplier of imported fresh produce.

(b) The Major Horticultural Imports from Mexico

Table 10.3 shows the 10 most important Canadian imports of each category of Mexican processed and fresh fruits and vegetables in terms of value. It also shows the importance of these top 10 commodities, both in terms of Mexico's exports to Canada and in terms of total Canadian imports. The relative ranking of Mexico as an import supplier of each commodity is also provided.

The most important observation from Table 10.3 is that Mexican fruit and vegetable exports to Canada are highly concentrated. The top 10 products account for over 92 percent of all Mexican vegetable exports to Canada, over 97 percent of all Mexican fruit exports to Canada, and 100 percent of all Mexican processed fruit and vegetable exports to Canada. Moreover, the top three products in each category account for, respectively, 60 percent, 70 percent and 86 percent of imports from Mexico into Canada.

For specific products such as fresh guavas, mangoes and mangosteens, Mexico is Canada's largest single supplier. For many of the other produce items on this listing, Mexico is Canada's second largest supplier after the United States. Mexico is a major supplier of imported cucumbers and gherkins, frozen strawberries, melons, peppers and garlic.

(c) Timing of Mexican Imports

The seasonal timing of imports from Mexico may indicate where future competitive pressures might arise. This section compares Mexican, U.S. and Canadian harvesting seasons and notes the periods where Canadian seasonal tariffs are in effect. It also compares Canadian imports from Mexico as a percentage of Canadian imports from the United States on a monthly basis.

A detailed examination of tomatoes, peppers, and onions and shallots is followed by a more general examination of several selected fresh and frozen horticultural products.

Table 10.3

COMPARISON OF TOP 10 FRESH AND PROCESSED FRUIT AND VEGETABLE IMPORTS FROM MEXICO, 1989

(CAN$ million)

Rank	Commodity	Imports from Mexico	Share of Imports from Mexico %	Share of Total Imports %	Total Imports	Import Supply Rank
	Vegetables					
1	Tomatoes	10.1	24.2	8.3	121.4	2
2	Cucumbers & Gherkins	7.6	18.2	27.0	28.2	2
3	Peppers	7.3	17.5	12.8	57.2	2
4	Onions & Shallots	3.6	8.6	9.8	36.7	2
5	Other Vegetables	3.4	8.2	8.8	38.8	2
6	Other Vegetables, Frozen	2.7	6.4	25.8	10.4	2
7	Garlic	1.1	2.8	15.9	7.2	2
8	Asparagus	1.0	2.3	4.5	21.5	2
9	Cabbage/Other Brassicas	0.9	2.2	1.7	52.8	2
10	Beans	0.8	2.0	5.0	16.7	2
	Top 10 Vegetables	38.5	92.4	9.9	91.0	2
	All Vegetables	41.7	100.0	5.0	826.6	2
	Fruits					
1	Melons	8.9	29.8	12.3	72.3	2
2	Bananas & Plantains	7.9	26.5	5.2	152.1	5
3	Guavas & Mangoes	4.2	14.1	39.6	10.6	1
4	Frozen Strawberries	2.7	9.1	35.8	7.6	2
5	Grapes	2.2	7.4	1.2	185.3	4
6	Dried Grapes	1.4	4.6	2.6	52.0	4
7	Lemons & Limes	0.6	1.9	2.1	26.3	4
8	Avocadoes	0.5	1.7	5.9	8.6	2
9	Pineapples	0.5	1.6	4.8	10.0	4
10	Strawberries	0.3	0.9	0.6	49.5	2
	Top 10 Fruits	29.2	97.4	5.1	574.2	
	All Fruits	29.9	100.0	2.6	1134.9	
	Processed Fruits and Vegetables					
1	Other Tomatoes, Preserved	4.5	64.9	10.9	41.4	4
2	Frozen Other & Mixed Vegetables	1.0	14.4	19.7	5.1	2
3	Frozen Orange Juice	0.5	7.5	0.3	181.9	4
4	Other Citrus Fruit Juice	0.5	7.1	8.9	5.5	2
5	Grapefruit Juice	0.2	2.9	1.2	16.2	4
6	Other Citrus Fruits	0.1	2.1	2.0	7.4	7
7	Under HS No. 2008.99	0.0	0.7	0.4	12.6	27
8	Under HS No. 2001.90	0.0	0.3	0.4	6.0	22
9	Under HS No. 2005.90	0.0	0.2	0.1	17.3	30
10		0.0	0.0	0.0	N.A.	N.A.
	Top 10 Processed	7.0	100.0	2.4	293.4	
	All Processed	7.0	100.0	1.2	594.8	

N.A. = Not applicable.

Source: Statistics Canada, Catalogue No. 65-203, Imports, Merchandise Trade (HS Based), 1989.

(d) Tomatoes

Fresh tomatoes were the single largest Mexican horticultural commodity exported to Canada, valued at $10.1 million in 1989. According to United States General Accounting Office (USGAO) data,[4] Mexico's tomato production competes with Florida's winter tomato production and, to a lesser extent, with California's summer and fall tomato production. Mexico's tomato exports also supplement Canadian domestic production, particularly at the beginning of the Canadian tomato season (Figure 10.1).

The Mexican harvesting season extends from early November through to the end of May (mid-February to mid-June for processing tomatoes), overlapping the Florida harvesting season (January through to the end of May). For much of this period, Mexican exports face low or zero Canadian non-seasonal tariffs and U.S. off-season tariffs.

Canadian tariffs applicable to tomatoes imported from Mexico are: 2.1¢/kg and not less than 15 percent for processing tomatoes; 5.51¢/kg and not less than 15 percent for imports during the commercial growing season (i.e., the seasonal tariff rate); and free of duty during the off-season. In 1989, seasonal tariffs were in effect between early April and late October/early November.

United States tariffs on tomatoes imported from Mexico are: 4.6¢/kg when imported between March 1 and July 14 or between September 1 and November 14; and 3.3¢/kg when imported between July 15 and August 31 or between November 15 and the last day of February of the following year.

The last line contained in Figure 10.1 compares Canadian imports of fresh tomatoes from Mexico as a percentage of Canadian imports of fresh tomatoes from the United States, on a monthly basis for the year 1989. The data are presented in this form, as opposed to the more conventional import market share approach,[5] to directly examine the issue of the competitiveness of Mexico's horticultural products.

The data in Figure 10.1 suggest that Mexican tomato exports offer increased competition to U.S. tomato exports, particularly during the months of January through April. In fact, in 1989, just over 10 million kg of the nearly 12 million kg (or 84.2 percent) of fresh tomatoes imported from Mexico were imported during this four-month period.

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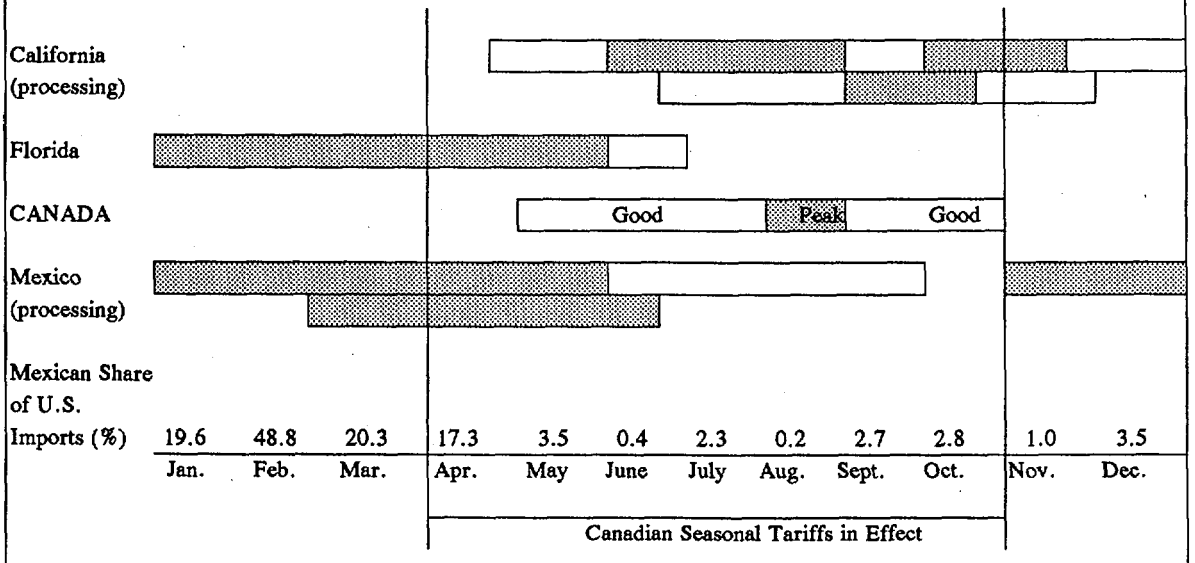
4. USGAO, U.S. - Mexico Trade: Extent To Which Mexican Horticultural Exports Complement U.S. Production, March 1991, at Appendix I.
5. In 1989, fresh tomatoes were the third largest non-processed horticultural commodity and the largest vegetable commodity imported into Canada. The U.S. share of Canadian imports of fresh tomatoes was 88.13 percent compared to an 8.32 percent share for Mexico.

FIGURE 10.1

CANADA - UNITED STATES - MEXICO, USUAL HARVESTING PERIODS:
FRESH TOMATOES



Legend:

Active Harvesting/Marketing Season

Other Harvesting/Marketing Season

Source:

USGAO, U.S. - Mexico Trade: Extent to Which Mexican Horticultural Exports Complement U.S. Production, Appendix I, Agriculture Canada.

(e) Peppers

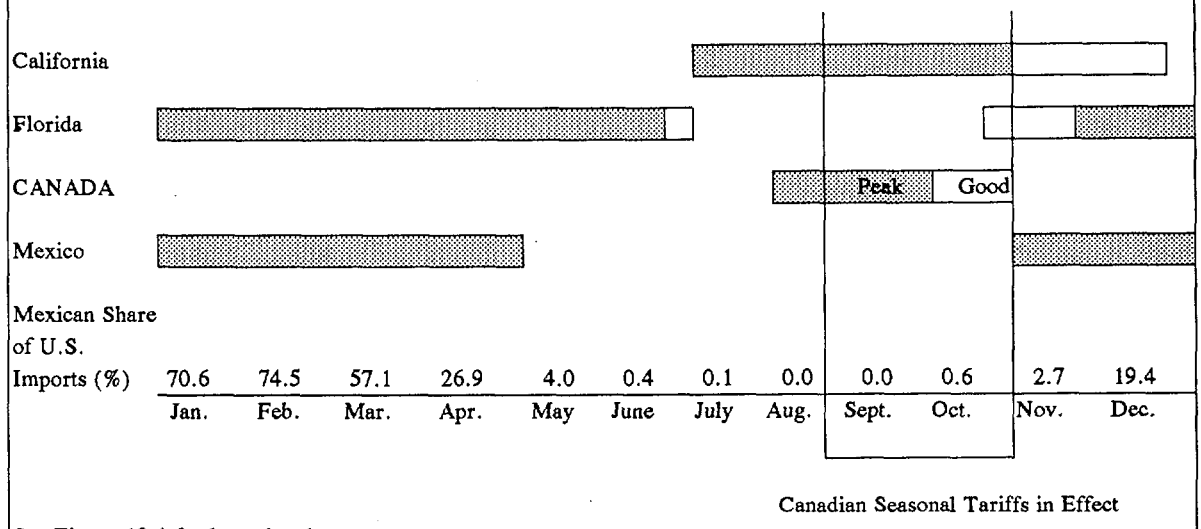
In 1989, peppers were the fourth largest fresh vegetable crop imported into Canada and the third most important imported vegetable crop originating from Mexico. Nearly $7.3 million of fresh peppers from Mexico were imported into Canada in 1989.

The Mexican harvesting season extends from early November through the end of April, largely coinciding with the Florida harvesting season (mid-November through mid-June). This winter-crop harvesting period falls entirely outside the period of Canadian seasonal tariffs. (Figure 10.2).

Canada does not apply duty to imports of peppers, except during the 12-week period when seasonal tariffs are in effect. The seasonal tariff rate applied to Mexico is 4.41¢/kg and not less than 10 percent. The United States applies only one rate of duty on Mexican peppers - 5.5¢/kg the year round.

The last line contained in Figure 10.2 compares Canadian imports of fresh peppers from Mexico as a percentage of Canadian imports of fresh peppers from the United States, on a monthly basis for the year 1989. The data suggest that Mexico offers increased competition to United States pepper exports, particularly during the months of December through April. In 1989, about 95.4 percent of Mexican peppers (or over 8 million kg) were imported during the months covering the December through April period.

FIGURE 10.2
CANADA - UNITED STATES - MEXICO, USUAL HARVESTING PERIODS:
FRESH PEPPERS



See Figure 10.1 for legend and source.

(f) Onions and Shallots

In 1989, onions and shallots (collectively referred to as onions) were the fourth largest fresh vegetable crop imported from Mexico. In 1989, Mexican onion exports to Canada were valued at $3.6 million, making Mexico the second largest import supplier of this crop after the United States ($41.8 million). Mexico held a 9.75 percent share of the Canadian imported onion market in 1989.

Unlike tomatoes and peppers, onions have a long storage capacity that allows for year-round supply. Mexico is able to harvest and market onions 12 months a year. The active Mexican harvest period, November through June, overlaps the Texas and California springtime onion harvest. Peak Mexican onion exports to Canada occur during the November-May period.

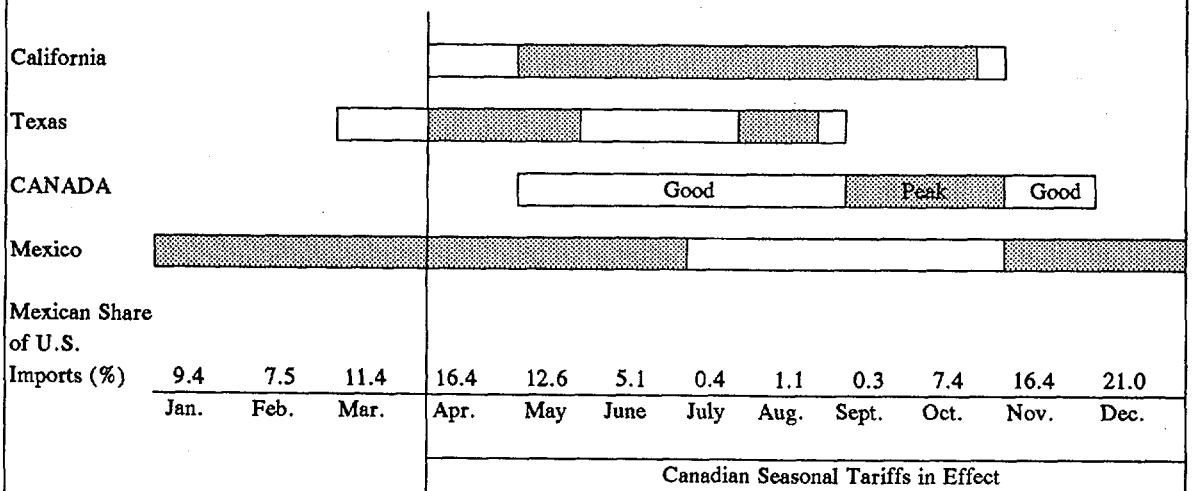
Canada applies a number of tariffs on several types of onions. The applicable rate for onion sets from Mexico is 6.61¢/kg and not less than 15 percent. Seasonal tariffs are also applied to onions. For Mexico, seasonal tariffs on spanish onions are 3.31¢/kg and not less than 15 percent for a maximum of 15 weeks; on green onions and shallots, 5.51¢/kg and not less than 12.5 percent for a maximum of 22 weeks - which may be split into two separate periods; and on other onions and shallots, 3.31¢/kg and not less than 15 percent for a maximum of 46 weeks - which may also be split into two separate periods. When spanish onions, green onions and shallots, and other onions and shallots are not subject to seasonal tariffs, they may enter Canada duty free.

The United States permits Mexican onion sets and Mexican pearl onions to enter free the year round. All other onions are subject to a 3.9¢/kg duty.

The last line contained in Figure 10.3 compares Canadian imports of fresh onions and shallots from Mexico as a percentage of Canadian imports of fresh onions and shallots from the United States, on a monthly basis for the year 1989. The data suggest that Mexico is a serious supplier of imported onions, particularly over the November-May period. In 1989, 85 percent of Canada's imports of Mexican onions were concentrated in the months covering the November through May period.

FIGURE 10.3

CANADA - UNITED STATES - MEXICO, USUAL HARVESTING PERIODS:
ALL TYPES OF ONIONS



See Figure 10.1 for legend and source.

(g) Other Fruits and Vegetables

Cauliflower and Headed Broccoli: Mexico exports cauliflower and headed broccoli to Canada during the months of January through June. Mexican cauliflower and headed broccoli imports are at their highest levels over the January - March period, followed by a sharp drop in levels in April and negligible imports in May and June. No imports were recorded over the period of July through December. During this latter period, Canadian cauliflower and broccoli become available in good quantities in the month of July and at peak levels over the months of August through October. In 1989, Canadian imports of Mexican cauliflower and headed broccoli did not exceed 1.5 percent of Canadian imports of U.S. cauliflower and headed broccoli at any time over the year.

Cabbage & Similar Edible Brassicas: Canada imports cabbage, kohlrabi, kale and similar products (collectively called cabbage) from Mexico over the months of November through June. The peak import period is from December to April. In 1989, Canadian imports of Mexican cabbage expressed as a percentage of Canadian imports of U.S. cabbage were never higher than 3.2 percent, the level reached in January of that year. With negligible or zero imports over July - October, Mexico does not provide any competition to Canadian production. In Canada, the peak production period of these products is August to October.

Peas: Peas are exported to Canada from Mexico in all months of the year except the months of June, July and August. Mexico is a significant supplier of imported peas over the December through March period, when import levels range from 17.6 percent to 43.2 percent of Canadian imports of U.S. peas. The Canadian peak production period for peas is July and August.

Beans: Beans are imported from Mexico from November through May, with the highest level being recorded from December through March (9 percent - 15 percent of Canadian imports of beans from the United States). In 1989, there were no imports of beans from Mexico from June through October, a period overlapping the Canadian domestic bean season (good supply in July, peak supplies in August, and, again, good supply in September).

Cucumbers and Gherkins: Mexico exports cucumbers and gherkins to Canada during the months of October through June. Mexican cucumber imports are at their peak from December through March - a period when there is almost no active cucumber harvesting in the United States. Over this period, Mexico is the number one supplier of fresh cucumbers to the Canadian market. Imports fall off sharply over the months of April and May. Negligible imports were recorded for the months of June and October, and no imports were recorded over July - September. Beginning in April, Canadian supplies of cucumbers become available in good quantities and reach their peak in July and August. In 1989, Canadian seasonal tariffs were in effect from April to mid-October.

Asparagus: Distinct seasonal production in Mexico and the United States allows Mexican growers to export fresh asparagus prior to peak U.S. production. Mexico produces two annual asparagus crops, a major one from January through March and a smaller one from June until the end of August. One the other hand, U.S. growers market the bulk of their production (90 percent) in the springtime. The Canadian fresh asparagus season is short lived, from about the beginning of May to about the third week of June. During this period, Canadian seasonal tariffs were in effect, and there were virtually no asparagus imports from Mexico.

Strawberries: Mexico is the second largest supplier of imported fresh strawberries; however, with only a 0.56 percent import market share, Mexican fresh strawberry imports trail far behind those of the United States (which held a 98.37 percent import market share in 1989). Mexico exports strawberries to Canada over the January - May period. In 1989, export volumes never exceeded 40,000 kg in any month compared to volumes from the United States, which ranged from 960,000 kg to 8,200,000 kg over the same period. The Canadian season for domestic strawberries covers June and July. In 1989, there were no imports of Mexican strawberries recorded from June through to December.

Fresh Grapes: In 1989, Mexico was Canada's fourth largest supplier of fresh imported grapes, with an import value of $2.2 million and an import market share of just 1.2 percent. Most of Mexico's exports of fresh grapes to Canada are concentrated in the months of May and June. In 1989, nearly 1.6 million kg of the total 1.7 million kg (or 92.5 percent) of fresh Mexican grapes were imported during these two months.

4. A Comparison of Tariff Regimes Covering Imports of Fresh and Processed Horticultural Products

This section compares the tariff structures of Canada, the United States and Mexico for imports of fresh and processed fruits and vegetables. While the tariff structures of Canada, the United States and Mexico are based on the HS classification system, there are noticeable differences. Under this system, commodity descriptions at the HS 6-digit level are identical, but definitions at the 8-digit tariff-item level are generally different. Mexico has a relatively simple tariff structure compared to Canada and the United States.

Mexico applies only *ad valorem* type duty rates. In addition, for 1991, import licenses are required for four fresh fruit and vegetable commodities (seed potatoes, apples, fresh grapes and dried kidney beans, including white pea beans, other than for sowing). In the United States, a wider variety of duties are imposed, including *ad valorem*, specific rate (e.g., ¢/kg), and combined specific - *ad valorem* rates. Canada applies the widest variety of duties. Canadian duties may be in the form of *ad valorem* rates, specific rates, combined specific - *ad valorem* rates, or combined specific - *ad valorem* rates with a small packaging surcharge (if the product is imported in packages weighing less than 2.27 kg). Additionally, both the Canadian and U.S. tariff schedules allow for special rates to developing countries, such as Mexico, under their respective tariff regimes (Generalized System of Preferences [GSP] rates in the United States and General Preferential Tariff [GPT] rates in Canada).

Tariff rates vary with the "when, where, and why's" of importing. Mexican tariffs are applied at the same unvarying rates in all regions of Mexico, at all times. In other words, they are year-round tariffs and national in application. For the United States, tariffs may be either year-round or seasonal, and are always national in their application. For Canada, tariffs may be either year-round or seasonal, but are not always national in their application. Seasonal tariffs are applied on a regional basis, creating possible situations where the importation of a horticultural product could be subject to different tariff rates at different ports of entry ("where") and/or at different times of the year ("when"). In addition, Canada also distinguishes between imports for processing purposes and imports for consumption ("why"). Neither the United States nor Mexico make such distinctions.

Between Canada and the United States, there are major differences in the application of the various types of tariffs. Of the nearly 300 Canadian 8-digit tariff level lines concerning fruit and vegetable products, 37 percent are free-of-duty entries; 36 percent are pure *ad valorem* duties; about 20 percent are of mixed specific rate - *ad valorem* rate type (mostly of the form of a specific rate not to fall below a minimum *ad valorem* rate or else of the type of a specific rate along with the Canadian small packaging surcharge mentioned earlier); 5 percent are GPT concessionary rates to developing countries; and 2 percent are specific rates of duty. On the other hand, of the nearly 400 U.S. 8-digit tariff-level entries concerning fruits and vegetables, 39 percent are GSP concessionary rates granted to Mexico; 27 percent are specific rates of duty; 22 percent are *ad valorem* rates; 10 percent are free-of-duty entries; and 2 percent are mixed tariff rates in the form of a specific rate plus an *ad valorem* rate.

In general, Mexico's horticultural tariffs are higher than their Canadian and U.S. counterparts for all fruit products, frozen and dried vegetables, and all processed horticultural products. For fresh vegetables, Mexican tariffs are sometimes higher.

For a number of products, Canadian and U.S. tariffs on Mexican produce are very similar. Many of the products that fall into this category are not native to North America (e.g., cassava, sweet potatoes, bananas and miscellaneous citrus fruits). The vast majority of such products enter Canada and the United States at free-of-duty rates. Fresh carrots and potatoes, frozen cranberries, and processed tomatoes and potatoes are other products for which Canadian and U.S. tariff rates with respect to Mexico are similar, but at non-zero rates.

There are a number of products for which Canadian tariffs are higher than U.S. tariffs on imports from Mexico. A great number of fresh fruits and vegetables belong to this category because they are affected by Canadian seasonal tariffs, or the highest possible tariff rates. However, as off-season rates are free-of-duty, all but two products, garlic and currants, also have rates lower than (or equal to) their U.S. counterparts for some period of time during the year. Garlic and currants have year-round tariffs. Major products for which Canadian tariffs for Mexican products are higher than U.S. tariffs include: pickles; pickled onions; tomato and vegetable juices; apple juices; tinned potatoes, peas, corn and asparagus; frozen peas, beans, raspberries and strawberries; and marmalades and certain types of fruit spreads.

U.S. tariffs are higher than Canadian tariffs on some imports from Mexico. Many fresh fruits belong in this category as they are not widely grown in Canada and, hence, enter Canada free-of-duty. There is, however, U.S. production of such fruits and, hence, non-zero U.S. tariffs. Other major products for which U.S. tariffs for Mexican products are higher than Canadian tariffs also include: fresh mushrooms, asparagus, spinach, corn and broccoli; frozen spinach, corn and potatoes; dried onions and tomatoes, tinned whole tomatoes; several types of tinned fruit; and pineapple and citrus juices.

5. Labour

In an earlier chapter, wage and benefit costs in Canada and the United States were compared. The purpose of this section[6] is to review minimum wages and benefits in Mexico. Mexico is a federal republic made up of 31 states and a federal district.

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6. This section is based on the Labour Canada document Comparison of Labour Legislation of General Application in Canada, the United States and Mexico, March 1991.

Labour laws come exclusively within federal jurisdiction and apply throughout the country, including export processing zones.

Minimum wages are set by the National Minimum Wage Commission, a tripartite group made up of representatives of business, labour and government. For the purposes of determining the minimum wage, Mexico has been divided into three regions, and the minimum wage varies from region to region. The region which comprises most of the export producing fruit and vegetable states (the northern states), the export processing zones, the federal district and metropolitan area, and other municipalities in various states is known as Zone A. The average industrial daily minimum wage (for skilled workers) in Zone A is CAN$4.65. The minimum wages in Zones B and C are slightly below those in Zone A (respectively CAN$4.30 and CAN$3.90 per day). Zone B includes Monterry, Guadalajara and other cities, and Zone C covers the rest of the country.

Revisions of the minimum wage generally occur more than once a year. (The last revision came into effect on November 16, 1990). They are also subject to a 50-60 percent premium for mandatory fringe benefits established by law, such as profit sharing (set at 10 percent of pre-tax profits since 1985), and a Christmas bonus of 15 days' pay. Companies must also contribute a sum equal to 5 percent of payroll to a national workers' housing institute established in 1972. These non-wage benefits cover around one-third of Mexico's working population.[7]

Labour costs are frequently referred to as a major competitive advantage for Mexico under the proposed NAFTA. The daily minimum wage in the exporting states is CAN$4.65. If employer-paid benefits are 55 percent of the minimum wage, then the daily wage bill per worker is CAN$7.21. If a Mexican and Canadian horticultural worker both earn the minimum wage[8] and both work 8-hour days, then the wage bill for the Canadian worker is 6.6 times larger than for the Mexican worker (CAN$47.92 vs. CAN$7.21).

As discussed in Chapter VIII, the important wage calculation for competitiveness is unit labour costs, not simply the wage bill for labour. If low wages in Mexico are related to low productivity, then unit labour costs will be much higher than the low wage rate. If low wages in Mexico are accompanied by high productivity, however, then Mexico will have a clear competitive advantage - this is particularly true for the growing or processing of products which are highly labour intensive. The lack of data on productivity precludes the drawing of a conclusion on this issue.

The Economics Department of the Bank of Montreal[9] had the following to say about competitive advantage in general and Mexico's labour wage advantage in specific:

> *Ultimately the competitiveness of any entity depends on: the relative costs of all production inputs (natural resources, land, capital, as well as labour); the degree of efficiency with which those factors are combined to produce saleable products (i.e., their productivity); and finally, their "market appeal." Particularly over the*

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7. Labour Canada at page 7, quoting a 1988 International Labour Organization document.
8. The Canadian minimum wage, after employer-paid benefits, is estimated to be $5.99/h. For further discussion on how this estimate was derived, see Chapter VIII of this report.
9. Bank of Montreal, Economics Department, The Search for Competitive Advantage: A New North American Free Trade Zone?, April 1991, at page 14.

last decade, productivity and non-cost "market appeal" factors have come to play an increasingly important role in the determination of competitive advantage on both an industry and country specific basis.

Of fifteen potential sources of competitive advantage, only about half relate to comparative costs. Moreover, ... three additional observations can be made about Mexico's present wage advantage. First, at present, it constitutes almost the sole source of comparative advantage to Mexico. Second, by and large, low wages generally reflect low levels of productivity. This is particularly true in Mexico, where absenteeism and labour turnover are high, and technical production interruptions are commonplace. Third, as the Mexican economy matures and becomes more integrated into the world economic order, it will likely develop new sources of comparative advantage -- but at the cost of losing its wage advantage.

6. Likely Impact on Horticultural Trade between the United States and Mexico

A United States-Mexico free trade agreement is expected to affect significantly the level of U.S. trade with Mexico in horticultural products. Mexico is the largest foreign supplier, and the seventh-largest U.S. export market for horticultural products such as fresh and processed fruits and vegetables. Duties imposed by both the United States and Mexico are relatively high. NTBs such as U.S. marketing orders, Mexican import-licensing requirements and phytosanitary rules in both countries also limit bilateral trade. The elimination of tariffs and NTBs under a United States-Mexico free trade agreement would generate a significant increase in U.S. imports from Mexico, given that U.S. supply and demand for most of the Mexican products are highly elastic.[10]

Mexican producers are able to supply the U.S. market with many of the same products grown or processed in the United States, but at much lower costs. The expected growth in Mexican exports to the United States would likely be concentrated in traditionally traded goods and high-dutied products such as tomatoes, cucumbers, asparagus, broccoli, cauliflower, lettuce, peppers, onions, squash, avocadoes, citrus fruits, grapes, melons, guavas and mangoes. U.S. growers of these products are expected to experience losses in production, particularly growers in Florida, California, and other warm-climate states who compete directly with products during the same growing seasons in Mexico.

The potential also exists for significant growth in U.S. imports of Mexican processed products, as this sector has attracted considerable U.S. investment over the last decade. Such processed goods would include: canned items, such as fruit and vegetable mixtures, tomato pastes and sauces, and asparagus; and frozen items, such as broccoli, cauliflower, strawberries and orange juice concentrate. A United States-Mexico free trade agreement may also accelerate the expansion of Mexico's crop production and food

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10. This section is based on two USITC publications: USITC publication No. 2353, The Likely Impact on the United States of a Free Trade Agreement with Mexico, February 1991, and USITC publication No. 2326, Review of Trade and Investment Liberalization Measures by Mexico and Prospects for Future United States-Mexico Relations: Phase II, Summary of Views on Prospects for Future United States-Mexico Relations, October 1990. Conclusions in this section specifically assume that U.S. marketing orders would be eliminated under a United States-Mexico free trade agreement and that Mexican goods would meet U.S. phytosanitary rules - assumptions which might be somewhat over-optimistic.

processing sector into products that have not previously been produced or exported to the United States in large volume, such as frozen spinach and potato chips. U.S. processors of these crops are also expected to experience production losses.

A United States-Mexico free trade agreement is also expected to generate a moderate increase in U.S. exports to Mexico. However, the U.S. International Trade Commission (USITC) estimates that less than 10 percent of Mexico's population has enough disposable income with which to purchase U.S. products. U.S. producers of temperate-climate products and certain processed products, such as canned potatoes and dried beans, are likely to benefit (moderately) from an opening of the Mexican market. However, underdeveloped transportation infrastructure and channels of distribution and the unequal distribution of consumer income in Mexico may limit market potential for U.S. exporters.

The impact of a United States-Mexico free trade agreement on cross-border production and investment is likely to be significant, given Mexico's potential to produce many of the same items as U.S. growers and processors at lower costs. U.S. investment in the Mexican sector is likely to be concentrated in food processing, considered an area of great export potential. Mexico's exports in that sector have been growing at an average annual rate of 20 percent, versus 5 percent for its exports of fresh products.

The increased competition between U.S. and Mexican producers in North American markets may lead to lower prices for fresh fruits and vegetables. To the extent that this occurs, Canadian producers would be under increased pressure to produce at lower prices to match the prices of produce coming from the south. Consumer demand in Canada would also be stimulated by lower produce prices, especially during the winter months.

7. Potential for Increased Canada-Mexico Horticultural Trade

The vast majority of Canada-Mexico fresh horticultural trade is characterized by significant Canadian imports during the domestic off-season, as described earlier in this chapter. With more-or-less complementary harvesting/marketing seasons, it is likely that Canada-Mexico trade will continue in this fashion, whether under NAFTA or not. Further, because of this off-season commercial activity, much of the existing imports of fresh Mexican produce occur at free-of-duty rates. Thus, tariff phase-out under NAFTA should have little impact in inducing new imports from Mexico during the off-season.

However, during the domestic growing season when Canadian tariffs are non-zero, tariff phase-out under NAFTA can be expected to have two separate effects on imports from Mexico. First, the (gradual) elimination of the tariff barrier will change the relative prices between Canadian and Mexican produce. This may cause some shifting in the sourcing of fresh produce, particularly by wholesalers and retailers of fresh produce. This would add further competitive pressures on the domestic industry. Any such shifting would be mitigated by a number of factors including quality of supply, quantity of supply and Canadian tendencies to favour local growers/suppliers. The extent of this shifting is likely to be minimal, at least until Mexico is able to increase significantly its supply of produce during Canada's growing season.

The second effect that a tariff phase-out under NAFTA would have on imports of Mexican produce is its impact on relative prices between U.S. and Mexican produce. Mexico competes much more directly with Florida, California and other Mexico-United States border states. Prices can be expected to play a larger role in the determination of Canadian sourcing of imports. Tariff elimination under NAFTA would

erode some of the relative price advantages that have been acquired by U.S. suppliers under CUSTA. This might, in turn, cause some shifting in the sourcing of offshore produce, in favour of Mexican suppliers. Again, quantity and quality of supply would be important factors that might mitigate shifts in sourcing between the United States and Mexico. However, as the quality of Mexican produce improves, competitive pressures would be brought upon U.S. growers, probably leading to a reduction in prices to the Canadian consumer.

There is a potential for significant growth in Mexican exports of processed horticultural products, as this sector has attracted considerable U.S. investment over the last decade. With the potential to produce many of the same items as U.S. growers and processors, but at lower costs, some spillover effect further north is likely. Processed goods such as canned fruits and vegetables, tinned asparagus and tomato pastes and sauces, and frozen items such as broccoli, cauliflower, strawberries and juice concentrates were identified as likely goods that Mexico would target for export to the United States. It is likely that such products would also make inroads in the Canadian market - either directly or through substitution with other processed food products in the Canadian market.

There are, however, a number of important impediments that Mexican producers and processors have to overcome in order to penetrate the Canadian market. The principal impediment is transportation from the Mexican field or factory to the Canadian marketplace. Transportation costs may allow higher cost Canadian producers to compete against lower cost competitors.

During the 1980s, Nogales, Arizona, emerged as a main entry point for Mexican horticultural exports to the United States, transported primarily by trucks. A second important border entry region for Mexican goods, especially winter vegetable crops and citrus fruits, is the Texas - Lower Rio Grande Region. Recent statistics on transportation costs to Montréal, Canada, indicate that shipping costs are in the range of $3,000-$3,200 for vegetables and citrus fruits from the Texas - Lower Rio Grande Valley region and in the range of $3,200-$3,500 for fruits and vegetables from the Mexico - Arizona border at Nogales.[11] Rates are based on most usual loads in a 42-45 ft. trailer. These costs probably add in the neighbourhood of $2-$4 per case of imported fresh Mexican produce and about $1.65-$2.00 per case of processed product.[12]

Canadian producers would be more sheltered from Mexican competition under NAFTA than U.S. producers because of differentials in transportation costs. However, as individual U.S. market distances from Mexico increase, transportation cost differences diminish, thus placing producers situated in the northern U.S. states on a more equal footing with their Canadian counterparts.

Another possible impediment to Mexican fresh produce entering Canada is possible U.S. border rejection based on U.S. phytosanitary standards. As much of the produce coming from Mexico to Canada is shipped by truck across the United States, situations could arise where USDA officials would refuse a shipper entry into the United States based on phytosanitary standards. Essentially, the USDA official must be

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11. Quotes for Montréal rates began in November 1990. Sources: Fruit and Vegetable Truck Rate Report (various) and Fruit and Vegetable Truck Rate and Cost Summary, 1990, Federal-State Market News Service, Agricultural Marketing Service, USDA.
12. Based on a fully loaded truck (44,000 lbs), per case of 24 x 16 oz.

satisfied that there is no way for the cause of the phytosanitary restriction to "escape" from the shipping container. Thus, for shipments of crops where phytosanitary restrictions involving insects apply,[13] the USDA could turn back the truck at the United States-Mexico border because an insect could crawl or fly out of a transport truck. However, if the official was satisfied that the cause of the U.S. phytosanitary condition could not escape the shipping container, e.g., a citrus fruit canker, the truck could be permitted entry into the United States for shipment to Canada.

Mexican exports to Canada will have to comply with Canadian laws. Applicable Canadian laws and regulations would include: tolerances for pesticide residues; Canadian sanitary and phytosanitary standards; Canadian regulations that restrict canned vegetables to designated sizes (10 oz., 14 oz., and 19 oz. sizes); and Canadian provisions for bilingual labelling. These factors might act as impediments to Mexican entry into the Canadian market.

The potential for increased Canadian exports to Mexico is not great. Canada, with considerably higher transportation costs, will have a difficult time matching U.S. competitors in the Mexican market. However, as Canadian production is geared towards short runs, Canadian food processors may be well placed to exploit market niches. In addition, Canadian processor experience with bilingual labelling may serve them well in the Mexican food market. In the short run, the Mexican market potential to Canadian growers and processors is likely to be very limited. However, the Mexican market is growing rapidly, and Canadian growers and processors should be able to capture a reasonable share of Mexican imports of products in which Canada has an advantage.

13. Examples of U.S. restrictions on pests are the Mexican and Mediterranean fruit flies and the avocado seed weevil, which affect Mexican orchard crops.

LIST OF FIGURES

Page

FRESH FRUIT AND VEGETABLE INDUSTRY OVERVIEW

3.1 Number of Farms Growing Vegetables 42
3.2 Farms Growing Vegetables 43
3.3 Average Income for Farms with Vegetable Sales ≥ 51% of Total Sales 44
3.4 Number of Farms Growing Fruits 50
3.5 Farms Growing Fruits 50
3.6 Average Income for Farms with Fruit Sales ≥ 51% of Total Sales 51
3.7 Canadian Trade Statistics 59

PROCESSED FRUIT AND VEGETABLE INDUSTRY OVERVIEW

4.1 Shipments by Product Category 65
4.2 Canadian Imports by Principal Country 68
4.3 Canadian Exports by Principal Country 70
4.4 Apparent Canadian Market 72
4.5 Average Hourly Earnings 76
4.6 Expenditures for Selected Industries 78
4.7 Canadian Trade Statistics 83

MARKETING, CONSUMER TRENDS AND DISTRIBUTION

5.1 Canada's Major Grocery Distributors 102
5.2 Distributor Concentration by Province 103

GOVERNMENT ASSISTANCE AND SUPPORT

6.1 PSE Values by Classification 113
6.2 Processor Equivalent PSE by Classification 122

PRODUCER AND PROCESSOR COSTS

8.1 Prime Lending Rate; Spread Between Prime Lending Rates and; Exchange Rates - Canada/United States 166

COMPETITIVENESS OVERVIEW

9.1 Pricing to the Tariff: Fruit and Vegetable Processors 182
9.2 Cost Profile within an Industry Sector 183
9.3 Shipment Value and Value Added per Worker 187
9.4 Wages as Percent of Shipment Value 189

HORTICULTURAL TRADE WITH MEXICO

10.1 Fresh Tomatoes 211
10.2 Fresh Peppers 212
10.3 All Types of Onions 213

LIST OF TABLES

Page

FRESH FRUIT AND VEGETABLE INDUSTRY OVERVIEW

3.1 Thirty-Two Vegetable and Fruit Crops - Farm Value 30
3.2 Potatoes 31
3.3 Mushrooms 32
3.4 Tomatoes 33
3.5 Cucumbers 34
3.6 Processing Crops 35
3.7 Root Crops 36
3.8 Cole Crops 38
3.9 Salad Crops 39
3.10 Other Crops 40
3.11 Percentage Distribution of Farm Area Used for Vegetable Production 42
3.12 Apples 45
3.13 Grapes 46
3.14 Berry Crops 47
3.15 Tender Fruit Crops 48
3.16 Regional Farm Values for 1989 - Vegetables 52
3.17 Regional Farm Values for 1989 - Fruits 54
3.18 Summary of Market Performance, 1980-84 to 1985-88 55
3.19 Canada - U.S. Comparisons - Thirty-Two Crops Grown in Canada . 56
3.20 Canada - U.S. Comparisons 57
3.21 Thirty-Two Crops Grown in Canada - Trade Statistics 58
3.22 All Crops - Trade Statistics 60

PROCESSED FRUIT AND VEGETABLE INDUSTRY OVERVIEW

4.1 Processing Establishments by Region 62
4.2 Distribution of Processing Establishments by Employment Size Grouping 63
4.3 Total Shipments, Industrial Product Price Index 64
4.4 Shipments by Region 65
4.5 Total Imports 66
4.6 Distribution of Total Imports 67
4.7 Total Exports 69
4.8 Apparent Canadian Market 71
4.9 Sales and Profits 73
4.10 Profitability Ratios 74
4.11 Employment by Region 75
4.12 Industry Employment, Real GDP and Productivity 77
4.13 Canada-U.S. Comparisons 81
4.14 Trade Statistics 82

Page

GOVERNMENT ASSISTANCE AND SUPPORT

6.1 Program Classification for PSE Calculations 109
6.2 Canadian and U.S. PSE Values for Fresh Fruits and Vegetables (%) 111
6.3 Canadian and U.S. PSE Values for Fresh Fruits and Vegetables - PSE per Unit Produced 112
6.4 Comparison of PSE Values by Classification (%) 115
6.5 Distribution of Irrigated Farms by Principal Source of Water in California (1988) 116
6.6 Comparison of PSE Values by Source (%) 118
6.7 Taxation Measures as Financial Assistance (%) 119
6.8 Financial Assistance with and without Tax Measures 120
6.9 Safety Net Measures as Financial Assistance (%) 120
6.10 Processor-Equivalent PSE Values for Canada and the United States (%) 121
6.11 Comparison of Processor-Equivalent PSE Values by Classification (%) 123

TAXES, TARIFFS AND REGULATIONS

7.1 Summary of Specific Farm Measures in Canada and the United States 127
7.2 Depreciation Rates 130
7.3 Comparison of Canada/United States Personal Income Tax, Including Social Security 131
7.4 Comparison of Depreciation Features 132
7.5 Corporate Tax Rates for Fruit and Vegetable Processing Corporations 134

PRODUCER AND PROCESSOR COSTS

8.1 Basic Hourly Wage Rates per Hired Farm Worker: Canada - United States Comparison 154
8.2 Employers' Hourly Costs per Hired Farm Worker: Canada - United States Comparison, 1991 157
8.3 Farm Fuel Prices in Canada and the United States, 1990-91 160
8.4 Comparison of Land Values for Three Crops - Canada and the United States, 1990 163
8.5 Nominal and Real Interest Rates - Canada and the United States, 1980-91 167
8.6 Relative Shares of Canned and Frozen Processing Costs (1990) in Canada and the United States 170
8.7 Comparison of Processor Costs for Raw Product Inputs 173
8.8 Total Hourly Labour Compensation in the Fruit and Vegetable Processing Industry: Canada-U.S. Comparison 175
8.9 Electricity Rates - Canada and the United States, 1990 176
8.10 Natural Gas Rates - Canada and the United States, 1990 177

Page

COMPETITIVENESS OVERVIEW

9.1 Fruit and Vegetable Production Yields, Canada and United States 185
9.2 Average Cost per Tonne: Vegetable Growers, 1989 192
9.3 Average Cost per Tonne: Fruit Growers, 1989 193
9.4 Comparison of Cost Competitiveness for Growers of Processing Crops, 1989 194
9.5 Comparison of Delivered Price in Canada for Selected Processed Fruits and Vegetables 196
9.6 Fresh Fruits and Vegetables - Market Statistics 197
9.7 Fruits and Vegetables for Processing - Market Statistics 198

HORTICULTURAL TRADE WITH MEXICO

10.1 Two-Way Trade in Fresh and Processed Fruits and Vegetables, 1989 205
10.2 Comparison of Top 10 Fresh and Processed Fruit and Vegetable Imports into Canada, by Source, 1989 207
10.3 Comparison of Top 10 Fresh and Processed Fruit and Vegetable Imports from Mexico, 1989 209

APPENDICES

APPENDIX A

CONDUCT OF THE INQUIRY

This inquiry was the first conducted by the Tribunal under section 18 of the *Canadian International Trade Tribunal Act* (the Act). This section authorizes the Governor in Council (that is, the Government as a whole) to refer to the Tribunal for inquiry and report any matter relating to the economic, trade or commercial interest of Canada. Previous references to the Tribunal were all made under section 19 of the Act, which authorizes the Minister of Finance alone to refer tariff-related matters to the Tribunal for inquiry and report.

The initiative for this inquiry came from the then Minister of Agriculture, the Honourable Don Mazankowski, P.C., M.P. He was supported by other ministers having an interest in trade, including the Ministers of Finance, International Trade, and Industry, Science and Technology. The Government acted in response to a request from the Canadian Horticultural Council (CHC), supported by the Food Institute of Canada (FIC), that the Tribunal be asked to inquire into the competitiveness of the fresh and processed fruit and vegetable industry.

The terms of reference of the inquiry are reproduced at Appendix B. The Tribunal encountered no real difficulties in interpreting its terms of reference or in designing programs of research and public hearings around them. The industry noted that the terms of reference did not require the Tribunal to make formal recommendations; it feared that the results might be a product which was mainly analytical rather than action-oriented. In the end, we decided that this was really just a semantic problem. Our terms of reference asked us to, "provide an overall assessment ... of the challenges and opportunities facing the industry, including the identification of factors which may improve the viability of the sector." How could we do so if we did not go on to suggest what actions various stakeholders in the public and private sectors might take to improve things?

As a first step in organizing the inquiry, the Tribunal invited academic and government experts and agricultural consultants to take part in a methodological seminar on the research program. This was followed by a preliminary hearing in Ottawa, in September 1990, at which parties were asked for their advice on interpreting the terms of reference, on the research program and on arrangements for further public hearings. On the research program, the parties made several suggestions which the Tribunal staff took into account. Of particular interest was the question of which fruits and vegetables should be the object of case studies and what provinces and states should be compared for each fruit and vegetable. The Tribunal followed the advice of the CHC and the FIC on this matter. The research program, as it was finally carried out, is described in Appendix C.

At the preliminary hearing, it was also agreed by the major parties, the CHC and the FIC, that the hearings should be conducted in a cooperative and non-adversarial manner. This proved to be the case throughout the hearings, thanks to the cooperation of all parties. Indeed, the harmonious conduct of this inquiry exemplifies the sense of community and interdependence which exists between fruit and vegetable producers and processors, despite the business pressures they put on one another.

From December 1990 to March 1991, the Tribunal held five weeks of hearings, combined with visits to neighbouring farms and processing facilities, beginning in Longueuil and continuing in London, Niagara, Winnipeg, Vancouver and Moncton. In all, more than 100 witnesses representing some 56 parties (see Appendix D) appeared at these hearings. We heard from virtually all the major organizations that represent growers and processors in each region, as well as from provincial marketing boards, federations, cooperatives, individual growers and processors, and provincial government officials. Their testimony, supplemented by 60 written submissions (see Appendix E), provided us with a great deal of information and also helped us assess many of the "intangibles" related to the industry's competitiveness.

In June, 1991, a two-week public hearing was held in Ottawa, at which Tribunal staff and consultants presented their research on general matters and on product case studies. The purpose of the hearing was to give interested parties an opportunity to understand and criticize the results of the research program and to seek additional information from them. At the June hearing, over 30 witnesses appeared and presented some 16 written submissions, apart from many staff papers and consultant's reports.

A final, two-day hearing was held in Ottawa, in September 1991. This hearing gave parties the opportunity to comment on the staff report which summarized the results of the research program. Chapters III through X of this final report owe much to that staff report, though they have been revised extensively to take into account the suggestions and constructive criticisms of the industry.

At the final hearings, the Tribunal members also put forward for comments and suggestions some of their own reactions to common beliefs and perceptions about the fruit and vegetable industry. They also presented for discussion a note entitled "Competitiveness Partnerships," which identified the factors affecting the viability of the sector and the actions which producers, processors, distributors and the federal and provincial governments could take to improve the industry's performance. These notes form the nucleus of Chapters I and II of the report, though the Tribunal members revised them greatly in the light of comments and suggestions made by the industry at the hearings and in follow-up submissions.

APPENDIX B

TERMS OF REFERENCE

P.C. 1990-1209
21 June, 1990

WHEREAS it appears a number of cumulative factors having an impact on the fresh and processed fruit and vegetable industry, including recent and expected changes in the conditions of international trade, increased competition from foreign suppliers, changes in consumer preferences, and marketing conditions, require certain changes and responses to be made on the part of the Canadian industry;

WHEREAS representatives of the Canadian fresh and processed fruit and vegetable industry have requested that in relation thereto the government undertake a comprehensive competitiveness study;

WHEREAS it would be desirable to have available the most complete and recent information which can be obtained regarding the nature of the Canadian industry;

AND WHEREAS section 18 of the Canadian International Trade Tribunal Act authorizes the Governor in Council to refer to the Canadian International Trade Tribunal for inquiry and report on any matter in relation to the economic, trade or commercial interests of Canada;

THEREFORE, HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL, on the recommendation of the Minister of Finance and the Minister of Agriculture, pursuant to section 18 of the Canadian International Trade Tribunal Act, is pleased hereby to direct the Canadian International Trade Tribunal to undertake forthwith a competitiveness inquiry in respect to the fresh and processed fruit and vegetable industry in order to:

(a) develop a representative profile of the domestic industry on a regional and national basis including conditions and trends respecting the structure of the industry, production, consumption, marketing and trade patterns;

(b) conduct an examination of Canadian and U.S. government intervention which has a direct impact on the competitive conditions for the fresh and processed fruit and vegetable industry including regulations, production and trade programs and tax legislation at the federal and subfederal level;

(c) determine factors which contribute to the differences in the competitive position of Canadian and foreign production both in the Canadian market and in key export markets, particularly with respect to the U.S. market; and

(d) provide an overall assessment based on the above, of the challenges and opportunities facing the industry in the coming years including the identification of factors which may improve the viability of the sector.

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL is further pleased to direct that the Canadian International Trade Tribunal hold public hearings in respect of the inquiry and submit its report within eighteen months of the date of this Order.

APPENDIX C

RESEARCH PROGRAM AND LIST OF PUBLICATIONS

The Tribunal prepared and circulated Discussion Notes for Preliminary Hearing to interested parties prior to the preliminary hearing in September 1990. The notes contained the Tribunal's interpretation of the terms of reference, proposals for the hearing locations, dates and procedures as well as a proposed work plan. The Tribunal indicated that the research staff would carry out the bulk of the research work, but that consultants would be commissioned to undertake several parts of the work plan.

An important segment of the work plan was case studies of particular commodities in specific provinces/regions and states. Suggestions for representative case studies were included in the discussion notes. During the preliminary hearing, a number of suggestions for additional and alternative case studies and regional areas were put forward by parties. After detailed consultation with representatives of the CHC and the FIC, the Tribunal decided to increase the number of commodities and regions studied to better reflect the concerns of the parties. If was agreed to have 5 case studies (involving 8 commodities) carried out by consultants and 5 case studies (on 5 commodities) carried out by the research staff. The commodities, regions and states for the case studies are shown in Table C.1.

Table C-1

COMMODITIES, REGIONS AND STATES IN CASE STUDIES

	Atl.	Que.	Ont.	Pra.	BC	ME	NY	SC	PA	OH	MI	WI	ND	CA	WA
Potatoes	X	X	X	X		X							X		X
Mushrooms			X		X				X						
Tomatoes			X							X				X	
Corn		X	X									X			
Peas		X	X									X			
Beans		X	X									X			
Carrots			X								X			X	
Onions		X	X				X				X				
Lettuce		X					X							X	
Apples	X	X	X		X		X								X
Blueberries	X	X			X	X									
Peaches			X		X			X						X	
Pears			X		X									X	X

Where: CA = California, ME = Maine, MI = Michigan, NY = New York, ND = North Dakota, OH = Ohio, PA = Pennsylvania, SC = South Carolina, WA = Washington, WI = Wisconsin

During the course of the inquiry, Tribunal research staff and expert consultants conducted several studies with respect to the horticultural industry in Canada and the United States. This research resulted in a large volume of information covering the following areas:

(a) Profiles of the fresh production of 17 vegetables and 9 fruits;

(b) A profile of the processing industry;

(c) Ten case studies which look at competitiveness factors between Canadian and comparable American growing regions for thirteen products including potatoes, apples, peas, beans, corn, peaches, pears, tomatoes, mushrooms, blueberries, carrots, onions and lettuce;

(d) Government support programs and policies for horticulture at the federal, state and provincial levels in the United States and Canada;

(e) Wholesale and retail procurement policies;

(f) Land use restrictions in Ontario and British Columbia; and

(g) A comparative overview of pesticides in Canada and the United States.

A list of the publications which resulted from this extensive research program is reproduced below. These publications are available in both official languages and may be ordered from:

Kwik-Kopy
Unit 101-A
300 Slater Street
Ottawa, Ontario
K1P 6A6
Telephone no.: (613) 234-8826
Telecopier no.: (613) 234-9464

STAFF REPORTS

P.1 Fresh Fruit and Vegetable Profiles. May 1991. $25.20

P.2 Processed Fruit and Vegetable Industry Profile. May 1991. $4.80

S.1 Blueberry Case Study. May 1991. $6.00

S.2 Carrot Case Study. May 1991. $4.56

S.3 Lettuce Case Study. May 1991. $3.68

S.4 Mushroom Case Study. May 1991. $4.64

S.5 Onion Case Study. May 1991. $5.04

O.1 Pesticides in Canada and the United States: A Comparative Overview. May 1991. $2.64

STAFF SUMMARY AND ANALYSIS. September 1991. $14.84

CONSULTANT REPORTS

C.1 Deloitte & Touche. Financial Assistance Provided to the Fruit and Vegetable Industries in Canada and the United States. May 1991. $11.48

C.2 Coopers & Lybrand Consulting Group. Land Use Restrictions. May 1991. $6.24

C.3 Peat Marwick Stevenson and Kellogg. Procurement Policies of Distributors. May 1991. $7.77

C.4.1.1 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Apple Industries. July 1991. $3.76

C.4.1.2 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Apple Industries. Exhibits. July 1991. $7.35

C.4.2.1 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Peach and Pear Industries. July 1991. $3.44

C.4.2.2 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Peach and Pear Industries. Exhibits. July 1991. $10.57

C.4.3.1 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Pea, Bean and Corn Industries. July 1991. $4.08

C.4.3.2 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Pea, Bean and Corn Industries. Exhibits. July 1991. $14.21

C.4.4.1 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Potato Industries. July 1991. $3.12

C.4.4.2 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Potato Industries. Exhibits. July 1991. $7.63

C.4.5.1 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Tomato Industries. July 1991. $3.12

C.4.5.2 Price Waterhouse. An Assessment of the Relative Competitiveness of the Canadian and United States Tomato Industries. Exhibits. July 1991. $9.03

* **Prices quoted do not include the Provincial Sales Tax, the Goods and Services Tax or the shipping and handling cost.**

APPENDIX D

LIST OF WITNESSES

PRELIMINARY HEARING

OTTAWA, September 24, 1990

Jean-Yves Lohé	President The Canadian Horticultural Council
Stephen Whitney	Assistant Executive Vice-President The Canadian Horticultural Council
Walter E. Kroeker	Kroeker Farms Limited
David A. Fardy	Treasurer Food Institute of Canada
Christopher J. Kyte	Executive Director Food Institute of Canada
H.R. Taylor	Executive Secretary The Canadian Horticultural Council
Stuart S. Cairns	President Canadian Potato Chip/Snack Food Association
Pierre Deutsch	Canadian Potato Chip/Snack Food Association

REGIONAL HEARINGS

MONTRÉAL, December 12 to 14, 1990

Jean-Louis Roy	Président Fédération des producteurs de pommes du Québec
Daniel Ruel	Secrétaire Fédération des producteurs de pommes du Québec
Jean-Claude Tessier	Président du groupe de travail canadien pour l'implantation de l'agence nationale de la pomme
Jean-Bernard Van Winden	Président Fédération des producteurs maraîchers du Québec
Jean-Pierre Girard, A.G.R.	Secrétaire Fédération des producteurs maraîchers du Québec

Jean-Joseph Larouche	Président Syndicat des producteurs de bleuets du Québec
Serge Paré	Président Syndicat des producteurs en serres du Québec
Normand Gauvin	Président Syndicat des producteurs et productrices de fraises et framboises du Québec
Jean-Claude Blanchette	Secrétaire Fédération des producteurs de pommes de terre du Québec
Guy Harvey	Président Fédération des producteurs de pommes de terre du Québec
Pierre Deutsch	Vice-président, Achats et Gestion des matériaux Les Aliments Humpty Dumpty Limitée
André Latour	Directeur général Association des manufacturiers de produits alimentaires du Québec
Jean Messier	Président Association des manufacturiers de produits alimentaires du Québec
Pierre Maillé	Sociétaire, Service d'évaluation Le Groupe Coopers & Lybrand
Bernard J. Tourillon	Projets spéciaux David Lord Limitée
François Béchard	Président Fédération des producteurs de fruits et légumes du Québec
Gilles McDuff	Secrétaire et Directeur du secteur horticole Fédération des producteurs de fruits et légumes du Québec

<u>LONDON, January 14 to 16, 1991</u>

Wayne Milton	Executive Assistant The Ontario Vegetable Growers' Marketing Board
Leonard Harwood	The Ontario Vegetable Growers' Marketing Board
Marshall Schuyler	Chairman The Ontario Vegetable Growers' Marketing Board

K. Gregg Mercer	President Ontario Food Processors' Association
E.L. Chudleigh	Executive Vice-President Ontario Food Processors' Association
Glen L. Crawford	Vice-President - Operations Pillsbury Canada Limited
W.H. (Bill) Schmidt	Director - Manufacturing Resources Pillsbury Canada Limited
Jim Hogan	Plant Manager - London Plant Pillsbury Canada Limited
George Demeyere	President Southern Ontario Tomato Co-Operative Inc.
Larry C. Moss, P. Eng.	General Manager Southern Ontario Tomato Co-Operative Inc.
Perry Pearce	National Farmers' Union
Joe Dama	National Farmers' Union
Gys Versteegh	Versteegh Bros. Ltd.
Adrian Brooymans	Director, Division 4 London - Apple Commission
Sam McLorn	Fruit Ridge Farms Ltd. Apple Producer
Hector Delanghe	Delhaven Orchards
David E. Richards	Vice-President and General Manager Strathroy Foods
Tony Moro	President Bradford & District Vegetable Growers' Association
Peter Vander Kooïj	Bradford & District Vegetable Growers' Association
Paul J. Smith	Bradford & District Vegetable Growers' Association
Tony Gaetano	Bradford & District Vegetable Growers' Association
J. Vanhart	Bradford & District Vegetable Growers' Association

NIAGARA-ON-THE-LAKE, January 17 and 18, 1991

Michael A. Mazur	Executive Secretary The Ontario Fruit & Vegetable Growers' Association
Richard Matthie	Executive Director The Ontario Fruit & Vegetable Growers' Association
Kenneth M. Porteous	The Ontario Fruit & Vegetable Growers' Association
Ken Forth	Second Vice-President The Ontario Fruit & Vegetable Growers' Association
Gary Ireland	President The Ontario Fruit & Vegetable Growers' Association
A. Lepp	President Niagara North Federation of Agriculture
R.J. Teather	Director Ontario Tender Fruit Marketing Board and Member of Niagara North Federation of Agriculture
Jamie Slingerland	Grape Grower
Al Ferri	Apple Grower
Nick Ferri	Apple Grower
Abe Epp	Abe Epp & Family Inc.
Paul Raytik	Ex-Farmer
Michael J. Watson	Farmer
Jim Rainforth	Secretary Ontario Grape and Tender Fruit Producers' Marketing Boards
Arthur W. Smith	Chairman Ontario Grape Growers' Marketing Board
W. (Les) Armstrong	Secretary/Manager Ontario Potato Growers' Marketing Board
Bob Séguin	Executive Director Policy and Programs Division Ontario Ministry of Agriculture and Food
Peter Rzadki	A/Senior Policy Advisor Economics and Policy Coordination Branch Ontario Ministry of Agriculture and Food

Ed Dickson	Economist Ontario Ministry of Agriculture and Food

WINNIPEG, January 23 and 24, 1991

Jim Mosiewich	Chairman The Manitoba Vegetable Producers' Marketing Board
Terry Young	General Manager The Manitoba Vegetable Producers' Marketing Board
A. Donald Kroeker	President and Chief Executive Officer Kroeker Farms Limited
Ian McGillivray	Chairman Alberta Potato Marketing Board
Mrs. Jan Brown	Manager Alberta Potato Marketing Board
Greg Gowryluk	Vegetable Growers' Association of Manitoba
Garry Sloik	Secretary-Manager Keystone Vegetable Producers' Association Inc.
Alex Olson	Vice-President Saskatchewan Fruit Growers' Association
John Kuhl	President Southern Manitoba Potato Co. Ltd.

VANCOUVER, February 13 to 15, 1991

Ralph G. Towsley	B.C. Vegetable Marketing Commission (retired)
Robert Savage	President Fraser Valley Corn Growers' Association
Ken R. Savage	President Fraser Valley Pea Growers' Association
Charles Amor	General Manager B.C. Vegetable Marketing Commission
R.J. Alcock	Marketing Specialist B.C. Ministry of Agriculture
Gerald Pinton	Association Manager B.C. Raspberry Growers' Association

Brian E. Mauza	Science and Technical Officer Western Greenhouse Growers' Co-operative Association
L.G. (Les) Pilchak	Chief Executive Western Greenhouse Growers' Co-operative Association
Steve U. Trummler	Executive Vice-President Fraser Valley Mushroom Growers' Co-operative Association
Yee Mah, C.A.	Secretary-Treasury Fraser Valley Mushroom Growers' Co-operative Association
Mrs. Marti Morfitt	Vice-President and General Manager Fraser Valley Foods
M. (Ron) Meermans	Director, Materials Management Fraser Valley Foods
J.C. (Jim) Byrne	Director, Operations Fraser Valley Foods
Mrs. Barbara Brennan	Secretary-Treasurer Kiwifruit Growers' Association of British Columbia
Herb Feischl	Grower
Dr. Allan Earl	Chief Executive Officer B.C. Tree Fruits Ltd.
Martin Linder	Secretary-Treasurer B.C. Tree Fruits Ltd.
David Hobson	Vice-President B.C. Fruit Growers' Association
Robert J. Holt	B.C. Fruit Growers' Association
David Taylor	Chairman B.C. Tree Fruit Marketing Board

<u>MONCTON, March 20 to 22, 1991</u>

Pierre Deutsch	Vice-President, Purchasing and Material Management Humpty Dumpty Foods Limited
Stuart S. Cairns	Vice-President, Technical Services and Corporate Affairs Hostess Frito Lay

Rick Whitman	Assistant Director, Horticulture Crops Nova Scotia Department of Agriculture and Marketing
Burris Coburn	New Brunswick Apple Marketing Board
John Coburn	W. Burris Coburn and Sons Ltd.
Bill MacKenzie	Market Planning and Research Officer New Brunswick Department of Agriculture
Dr. Brian W. Dykeman	Head, Horticulture Section New Brunswick Department of Agriculture
Ms. Rayleene Nash	General Manager Blueberry Producers' Association of Nova Scotia
Ms. Sherry E. Porter	Regional Director, Atlantic Office Canadian Council of Grocery Distributors
Don Rhyno	Director, Wholesale Produce Bolands Limited
Harold Schneider	Regional Markets Officer Dairy Fruit and Vegetable Division Agriculture Canada
C.V. Hiltz	Food Production and Marketing Branch Agriculture Canada
Howard B. Fuller	Second Vice-President Nova Scotia Fruit Growers' Association
Lester G. Palmer	Immediate Past Chairman Nova Scotia Processing Pea and Bean Growers' Marketing Board
Sonya D. MacKillop	Secretary-Manager The Vegetable and Potato Producers' Association of Nova Scotia
Lawrence Kavanaugh	Representative New Brunswick Potato Agency

OTTAWA, June 10 to 20, 1991

James E. Harris	President Canadian Horticultural Council
Dan Dempster	Executive Vice-President Canadian Horticultural Council

Stephen Whitney	Assistant Executive Vice-President Canadian Horticultural Council
Christopher J. Kyte	Executive Director Food Institute of Canada
Paul Crotty	Principal Peat Marwick Stevenson & Kellogg
Maureen A. Farrow	The Coopers & Lybrand Consulting Group
John R. Groenewegen	Principal Deloitte & Touche
Charles F. Stamm	Deloitte & Touche
James D. Sayre	Deloitte & Touche
Hajo Versteeg	Director Secretariat Pesticide Registration Review
Peter Brackenridge	Director, Dairy, Fruit and Vegetable Division Agriculture Canada
Peter Bouris	Associate Director, Fresh Products Section Agriculture Canada
Alain Denhez	Personal Tax Analysis Division Department of Finance
Richard Laliberté	Assistant Director, Personal Tax Analysis Division Department of Finance
Kerry Michael Harnish	Tax Policy Officer, Legislation Division Department of Finance
Gilles McDuff, d.t.a.	Secrétaire et Directeur du secteur horticole Fédération des producteurs de fruits et légumes du Québec
Yvan Loubier	Économiste, Directeur-adjoint Direction des recherches et politiques L'Union des producteurs agricoles
Jean-Pierre Girard, A.G.R.	Adjoint au Directeur, Secteur horticulture L'Union des producteurs agricoles
H. Lloyd Palmer	General Manager Prince Edward Island Potato Board
Nancy Brown Andison, MBA, PAg.	Manager, Agriculture and Food Services Price Waterhouse

Lindsay Barfoot, PAg.	Agriculture and Food Consulting Group Price Waterhouse
Oliver Kent	Partner Price Waterhouse
Erna H.K. van Duren, Ph.D.	Assistant Professor University of Guelph
Gary R. Barnes	President and Chief Executive Officer Coca-Cola Foods Canada Inc.
John W. Kuhl	Chairman, Trade and Tariff Committee Canadian Horticultural Council
René Cardinal	Chief, Fresh Products Inspection, Dairy, Fruit and Vegetable Division Agriculture Canada
Glen Crawford	Vice-President, Operations Pillsbury Canada Limited
Perry W. Nelson	President and Chief Executive Officer Crown Cork and Seal Canada Inc.
T.D. Smyth	Chairman H.J. Heinz Company of Canada Ltd.
Jim Krushelniski	General Manager - Logistics H.J. Heinz Company of Canada Ltd.
Jean Gattuso	Executive Vice-President and Assistant General Manager A. Lassonde & Fils Inc.

OTTAWA, September 24 and 25, 1991

James E. Harris	President Canadian Horticultural Council
John Kuhl	Canadian Horticultural Council
Dan Dempster	Executive Vice-President Canadian Horticultural Council
Stephen Whitney	Assistant Executive Vice-President Canadian Horticultural Council
Christopher J. Kyte	Executive Director Food Institute of Canada

E.L. Chudleigh	Executive Vice-President Ontario Food Processors' Association
K. Gregg Mercer	Ontario Food Processors' Association
Leonard Harwood	Chairman The Ontario Vegetable Growers' Marketing Board
John Mumford	Secretary Manager The Ontario Vegetable Growers' Marketing Board
Marshall Schuyler	Director The Ontario Vegetable Growers' Marketing Board
François Béchard	President Fédération des producteurs de fruits et légumes du Québec
Gilles McDuff	Secrétaire et Directeur du secteur horticole Fédération des producteurs de fruits et légumes du Québec
Larry J. Martin	University of Guelph
Stuart S. Cairns	President Canadian Potato Chip/Snack Food Association
Pierre Deutsch	Canadian Potato Chip/Snack Food Association
Phillip Andrewes	Chairman Ontario Tender Fruit Producers' Marketing Board
Hector Delanghe	Ontario Fruit and Vegetable Growers' Association
Ken Porteous	Ontario Fruit and Vegetable Growers' Association
Calvin Holden	Ontario Ministry of Agriculture and Food
Michael A. Mazur	Executive Secretary Ontario Fruit and Vegetable Growers' Association
Gwen Smith	Treasurer W.J. Smith & Sons

APPENDIX E

LIST OF SUBMISSIONS AND EXHIBITS

OTTAWA, September 24, 1990

The Canadian Horticultural Council

Food Institute of Canada

Kroeker Farms Limited

MONTRÉAL, December 12 to 14, 1990

Fédération des producteurs de pommes du Québec

Mémoire de la Fédération présenté au Conseil national de commercialisation des produits agricoles

Fédération des producteurs de fruits et légumes du Québec

Fédération des producteurs maraîchers du Québec

Association des manufacturiers de produits alimentaires du Québec

Rapport de Coopers & Lybrand

Fédération des producteurs de pommes de terre du Québec

Appendix to Coopers & Lybrand's report

LONDON, January 14 to 16, 1991

Strathroy Foods

Southern Ontario Tomato Co-Operative Inc. and All-Pak Processing Ltd. (885277 Ontario Ltd.)

Letter dated June 27, 1990, from the Farm Products Marketing Commission to 885277 Ontario Ltd.

Pillsbury Canada Limited

Amended Version of the Annex to L-C-1 Entitled "Vegetable Competitive Assessment Corporate Overview"

Cost Comparison - Green Giant 12/1 lb. Frozen Sweet Peas (Protected)

The Ontario Vegetable Growers' Marketing Board and the Ontario Food Processors' Association

The Ontario Vegetable Growers' Marketing Board and the Ontario Food Processors' Association (Protected)

National Farmers' Union

National Farmers' Union, Additional Submission

Essex County Associated Growers

Versteegh Bros. Ltd.

Delhaven Orchards

Ontario Berry Growers' Association

NIAGARA-ON-THE-LAKE, January 17 and 18, 1991

The Regional Municipality of Niagara

Ontario Fruit and Vegetable Growers' Association

Ontario Fruit and Vegetable Growers' Association, Additional Information

Opening Remarks of the Ontario Fruit and Vegetable Growers' Association

Reader's Digest Pamphlet Entitled "The Great Apple Scare"

Ontario Ministry of Agriculture and Food

Ontario Ministry of Agriculture and Food, Final Submission

Quinte Apple Growers' Association

Ontario Tender Fruit Producers' Marketing Board and the Ontario Grape Growers' Marketing Board

Excerpt from the Globe and Mail Entitled "The Tax Scoreboard"

The Ontario Potato Growers' Marketing Board

The Ontario Potato Growers' Marketing Board, Final Submission

Prince Edward County Fruit Growers' Co-Operative

Al Ferri, Grower

Niagara North Federation of Agriculture

Jamie Slingerland, Grape Grower

John D. Kirby, Fruit Farmer

Mrs. Carol Marten, Fruit Grower

Gordon Neufeld

WINNIPEG, January 23 and 24, 1991

Kroeker Farms Limited

Kroeker Farms Limited, Revised Submission

Keystone Vegetable Producers' Association Inc.

The Alberta Potato Marketing Board

The Vegetable Growers' Association of Manitoba

The Manitoba Vegetable Producers' Marketing Board

The Manitoba Vegetable Producers' Marketing Board, Revised Submission

Southern Manitoba Potato Co. Ltd.

Southern Manitoba Potato Co. Ltd., The Consumer of the 90s

Saskatchewan Fruit Growers' Association

Recipe Book Entitled "Berries Beautiful"

Prairie Fruit Growers' Association

Manitoba Departments of Agriculture and Industry, Trade and Tourism

Carnation Foods Co. Ltd. (Protected)

VANCOUVER, February 13 to 15, 1991

Western Greenhouse Growers' Co-operative Association

Western Greenhouse Growers' Co-operative Association, Additional Information

Western Greenhouse Growers' Co-operative Association, Additional Information Requested at the Hearing (Protected)

Fraser Valley Foods

Fraser Valley Foods, Overhead Submission

Similkameen Okanagan Organic Producers' Association

British Columbia Raspberry Growers' Association

Daydream Mushroom Farms Ltd.

Okanagan Federated Skippers' Association

B.C. Fruit Growers' Association

B.C. Fruit Growers' Association (Protected)

B.C. Vegetable Marketing Commission

B.C. Vegetable Marketing Commission, Revised "Appendix D" for Submissions

B.C. Vegetable Marketing Commission, Final Submission

B.C. Vegetable Marketing Commission, Report Entitled "Assessment of the Market Potential for Ginseng Cultivated in B.C."

Kiwifruit Growers' Association of British Columbia

Kiwifruit Growers' Association of British Columbia, Final Submission

British Columbia Tree Fruit Marketing Board, Preliminary Submission

British Columbia Tree Fruit Marketing Board, Final Submission

British Columbia Tree Fruit Marketing Board, Final Submission (Protected)

British Columbia Tree Fruits Ltd., 1988-89 Annual Report

British Columbia Tree Fruits Ltd., 1989-90 Annual Report

British Columbia Tree Fruits Ltd., Speech Given by Dr. Allan Earl to the Canadian Council of Grocery Distributors

British Columbia Tree Fruits Ltd., Cassette, Washington State Horticultural Association, Annual Meeting, Speakers Bob Kershow and Bill Bryant (Physical)

Fraser Valley Mushroom Growers' Co-operative Association

British Columbia Blueberry Co-operative Association

Royal City Foods Ltd.

MONCTON, March 20 to 22, 1991

Nova Scotia Department of Agriculture and Marketing

Various Reports from the Nova Scotia Department of Agriculture and Marketing

Nova Scotia Processing Pea and Bean Growers' Marketing Board

New Brunswick Potato Agency

Cobi Foods Inc.

Blueberry Producers' Association of Nova Scotia

The Canadian Potato Chip and Snack Food Association

Price List for Cabana

Nova Scotia Fruit Growers' Association

Report Entitled "Agriculture and Food Development Nova Scotia"

New Brunswick Apple Marketing Board

W. Burris Coburn & Sons Ltd.

New Brunswick Department of Agriculture

Study by Thorne Stevenson & Kellogg Entitled "Evaluation and Development of a Commodity Marketing System for Fresh Vegetables"

Canadian Council of Grocery Products

1990 State of the Industry Report - ACCGD/FMI Comparative Study of the Food Industry in Canada and the U.S.A.

OTTAWA, June 10 to 20, 1991

The Canadian Horticultural Council

The Canadian Horticultural Council's General Observations

Food Institute of Canada

Food Institute of Canada, Final Submission

Food Institute of Canada, General Observations

Information Kit on Various Meetings of the Food Institute of Canada

Letter Dated May 29, 1991, from Crown Cork & Seal Canada Inc. (Protected)

Presentation of H.J. Heinz Company of Canada Ltd.

Presentation of Pillsbury Canada Limited

Key Macro-Economic Factors, Second Portion of Pillsbury Presentation

Presentation of A. Lassonde & Fils

Prince Edward Island Potato Board

Prince Edward Island Potato Board, Revised Submission

Ontario Food Processors' Association and Ontario Vegetable Growers' Marketing Board, Draft Presentation

Union des producteurs agricoles

Union des producteurs agricoles, Final Submission

OTTAWA, September 24 and 25, 1991

Ontario Fruit and Vegetable Growers' Association (Labour Section)

Ontario Fruit and Vegetable Growers' Association (Labour Section). Revised Submission

Association's Discussion Notes

The Ontario Labour Relations Act - The Agricultural Exemption

The Ontario Vegetable Growers' Marketing Board

Tomato Competitive Study

Sweet Corn and Green Peas Competitive Study

Fédération des producteurs de fruits et légumes du Québec

Fédération des producteurs de pommes du Québec

Agriculture Canada Food Production and Inspection Branch

British Columbia Processing Vegetable and Strawberry Industry Development Commission

Ontario Ministry of Agriculture and Food

The Food Institute of Canada

Ontario Apple Marketing Commission

*** Copies of public submissions and exhibits are available for perusal at the Tribunal offices. Arrangements may be made by contacting the Secretary at (613) 993-3595.**

APPENDIX F

THIRTY-TWO VEGETABLE AND FRUIT CROPS

PRODUCTION VOLUME

(000 tonnes)

	1980	1989	Compound Growth Rate 1980-89 (%)
Vegetables			
Potatoes	2,479.5	2,842.0	1.5
Mushrooms	29.3	52.2	6.6
Tomatoes*	430.1	626.7	4.3
Corn	277.5	347.7	2.5
Cucumbers*	69.8	96.3	3.6
Carrots	208.3	273.3	3.1
Cabbage	123.6	138.1	1.2
Onions	106.2	136.9	2.9
Green Peas**	68.6	70.9	0.4
Lettuce	45.5	55.4	2.2
Cauliflower	47.5	35.3	(3.2)
Beans	50.5	47.6	(0.7)
Rutabagas	117.4	76.1	(4.7)
Celery	31.0	46.7	4.7
Peppers***	15.2	22.5	5.8
Asparagus	2.6	3.5	3.4
Beets	20.6	15.4	(3.2)
Radishes***	3.6	4.8	4.2
Brussels Sprouts**	2.6	3.7	4.0
Broccoli**	2.0	3.2	5.4
Spinach	3.4	3.1	(1.0)
Parsnips	3.7	2.3	(5.1)
Total	4,138.5	4,903.7	1.9

	1980	1989	Compound Growth Rate 1980-89 (%)
Fruits			
Apples	552.6	536.7	(0.3)
Strawberries	29.5	27.0	(1.0)
Blueberries	13.6	26.3	7.6
Raspberries	9.1	21.4	10.0
Grapes	74.9	51.0	(4.2)
Peaches	40.9	39.5	(0.4)
Cranberries	5.8	11.2	7.6
Cherries	19.1	13.5	(3.8)
Pears	39.4	21.3	(6.6)
Plums and Prunes	9.5	4.5	(8.0)
Total	794.4	752.4	(0.6)

Note:
* Includes greenhouse.
** Processing crop only.
*** 1982.

Source: Statistics Canada.

APPENDIX G

Table I

BEANS

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	50,483	47,711	45,274	36,925	47,397	48,427	47,612	45,127
Imports	10,238	10,964	10,384	13,620	14,482	14,082	14,923	13,498
Fresh	8,690	9,128	9,398	11,553	13,209	13,667	13,658	12,297
Processed	1,548	1,835	987	2,067	1,272	415	1,266	1,201
Imports as % of Production	20	23	23	37	31	29	31	30
Supply Available	60,721	58,674	55,658	50,545	61,878	62,509	62,535	58,625
Available for Consumption in Processed Form	44,278	39,960	34,971	30,058	38,960	42,705	41,024	37,543
Domestic Production	42,730	38,125	33,984	27,991	37,688	42,290	39,758	36,342
Imported Processed	1,548	1,835	987	2,067	1,272	415	1,266	1,201
Available for Fresh Market	16,443	18,714	20,687	20,487	22,918	19,804	21,512	21,082
Domestic Production	7,753	9,586	11,290	8,934	9,709	6,137	7,854	8,785
Imported Fresh	8,690	9,128	9,398	11,553	13,209	13,667	13,658	12,297
Exports	3,517	2,580	3,101	3,677	4,722	8,548	5,723	5,154
Fresh*	-	-	-	-	-	1,495	554	410**
Processed	3,517	2,580	3,101	3,677	4,722	7,053	5,169	4,745
Exports as % of Production	7	5	7	10	10	18	12	11
Domestic Disappearance	57,204	56,094	52,557	46,867	57,156	53,961	56,812	53,470
Consumed in Processed Form	40,761	37,380	31,869	26,380	34,238	35,652	35,855	32,799
Domestic Production	39,213	35,544	30,882	24,314	32,966	35,237	34,589	31,598
Imported Processed	1,548	1,835	987	2,067	1,272	415	1,266	1,201
Fresh Market Consumption	16,443	18,714	20,687	20,487	22,918	18,309	20,957	20,672
Domestic Production	7,753	9,586	11,290	8,934	9,709	4,642	7,300	8,375
Imported Fresh	8,690	9,128	9,398	11,553	13,209	13,667	13,658	12,297
Domestic Producers' Market Share of:								
Total Market (%)	82	80	80	71	75	74	74	75
Processed Market (%)	96	95	97	92	96	99	96	96
Fresh Market (%)	47	51	55	44	42	25	35	41
Per Capita Disappearance (kg)	2.37	2.28	2.07	1.85	2.23	2.08	2.16	2.08
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:
* Fresh export data only available with the introduction of the Harmonized System of classification in calendar year 1988.
** Five-year average based on two years of data.
Bean crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada.

Table II

CARROTS

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	208,327	250,236	243,015	240,014	280,612	269,165	275,442	261,650
Imports	55,414	57,814	65,490	83,637	70,889	74,328	73,907	73,650
Fresh	50,087	52,640	58,871	75,158	60,970	65,614	64,639	65,050
Processed	5,326	5,174	6,619	8,479	9,919	8,713	9,267	8,600
Imports as % of Production	27	23	27	35	25	28	27	28
Supply Available	263,741	308,050	308,505	323,651	351,501	343,492	349,349	335,300
Available for Consumption in Processed Form	33,273	45,563	56,063	62,390	64,342	71,087	85,207	67,818
Domestic Production	27,947	40,389	49,444	53,911	54,424	62,373	75,940	59,218
Imported Processed	5,326	5,174	6,619	8,479	9,919	8,713	9,267	8,600
Available for Fresh Market	230,468	262,487	252,442	261,261	287,158	272,406	264,141	267,482
Domestic Production	180,380	209,847	193,571	186,103	226,188	206,792	199,502	202,431
Imported Fresh	50,087	52,640	58,871	75,158	60,970	65,614	64,639	65,050
Exports	39,151	50,252	55,180	43,234	66,291	30,326	29,157	44,838
Fresh	38,773	50,060	55,079	43,156	66,278	30,243	28,947	44,741
Processed*	378	191	101	78	14	83	210	97
Exports as % of Production	19	20	23	18	24	11	11	17
Domestic Disappearance	224,590	257,798	253,325	280,417	285,209	313,166	320,192	290,462
Consumed in Processed Form	32,895	45,371	55,962	62,312	64,329	71,004	84,998	67,721
Domestic Production	27,568	40,197	49,343	53,833	54,410	62,290	75,730	59,121
Imported Processed	5,326	5,174	6,619	8,479	9,919	8,713	9,267	8,600
Fresh Market Consumption	191,695	212,426	197,363	218,106	220,881	242,163	235,195	222,741
Domestic Production	141,608	159,787	138,492	142,948	159,910	176,549	170,555	157,691
Imported Fresh	50,087	52,640	58,871	75,158	60,970	65,614	64,639	65,050
Domestic Producers' Market Share of:								
Total Market (%)	75	78	74	70	75	76	77	75
Processed Market (%)	84	89	88	86	85	88	89	87
Fresh Market (%)	74	75	70	66	72	73	73	71
Per Capita Disappearance (kg)	9.32	10.47	9.98	11.06	11.11	12.07	12.19	11.29
Population (000)	24,086	24,633	25,380	25,354	25,664	25,399	26,273	25,722

Note:

* Canned figures from 1980 to 1989 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Carrot crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table III

SWEET CORN

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	277,517	295,582	307,623	275,096	341,106	320,561	345,472	317,972
Imports	30,305	28,945	30,651	31,803	29,111	31,871	41,788	33,045
Fresh	17,653	19,213	20,870	23,334	21,310	23,949	31,771	24,247
Processed	12,652	9,732	9,782	8,469	7,801	7,922	10,017	8,798
Imports as % of Production	11	10	10	12	9	10	12	10
Supply Available	307,822	324,527	338,274	306,899	370,217	352,432	387,260	351,016
Available for Consumption in Processed Form	239,371	244,902	231,982	209,996	271,574	265,090	278,269	251,382
Domestic Production	226,719	235,170	222,200	201,527	263,773	257,167	268,252	242,584
Imported processed	12,652	9,732	9,782	8,469	7,801	7,922	10,017	8,798
Available for Fresh Market	68,451	79,625	106,292	96,902	98,643	87,343	108,991	99,634
Domestic Production	50,798	60,412	85,423	73,569	77,333	63,394	77,220	75,388
Imported Fresh	17,653	19,213	20,870	23,334	21,310	23,949	31,771	24,247
Exports	72,307	62,016	44,048	48,192	62,974	65,427	55,169	55,162
Fresh								
Processed	72,307	62,016	44,048	48,192	62,974	65,427	55,169	55,162
Exports as % of Production	26	21	14	18	18	20	16	17
Domestic Disappearance	235,516	262,512	294,226	258,707	307,243	287,005	332,091	295,854
Consumed in Processed Form	167,064	182,887	187,934	161,804	208,600	199,663	223,100	196,220
Domestic Production	154,412	173,154	178,152	153,335	200,800	191,740	213,083	187,422
Imported Processed	12,652	9,732	9,782	8,469	7,801	7,922	10,017	8,798
Fresh Market Consumption	68,451	79,625	106,292	96,902	98,643	87,343	108,991	99,634
Domestic Production	50,798	60,412	85,423	73,569	77,333	63,394	77,220	75,388
Imported Fresh	17,653	19,213	20,870	23,334	21,310	23,949	31,771	24,247
Domestic Producers' Market Share of:								
Total Market (%)	87	89	90	88	91	89	87	89
Processed Market (%)	92	95	95	95	96	96	96	96
Fresh Market (%)	74	76	80	76	78	73	71	76
Per Capita Disappearance (kg)	9.78	10.66	11.59	10.20	11.97	11.06	12.64	11.50
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

Sweet corn crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada.

Table IV

LETTUCE

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production*	45,519	43,552	53,361	44,294	48,145	52,427	55,362	50,718
Imports	203,588	206,008	216,113	235,375	217,339	167,610	174,096	202,107
Fresh	203,588	206,008	216,113	235,375	217,339	167,610	174,096	202,107
Processed	0	0	0	0	0	0	0	0
Imports as % of Production	447	473	405	531	451	320	314	398
Supply Available	249,107	249,559	269,474	279,669	265,484	220,037	229,458	252,824
Available for Fresh Market	249,107	249,559	269,474	279,669	265,484	220,037	229,458	252,824
Domestic Production	45,519	43,552	53,361	44,294	48,145	52,427	55,362	50,718
Imported Fresh	203,588	206,008	216,113	235,375	217,339	167,610	174,096	202,107
Exports	3,361	4,439	7,542	2,864	2,311	2,789	1,743	3,450
Fresh**	3,361	4,439	7,542	2,864	2,311	2,789	1,743	3,450
Processed	0	0	0	0	0	0		0
Exports as % of Production	7	10	14	6	5	5	3	7
Domestic Disappearance	245,746	245,120	261,932	276,805	263,173	217,248	227,715	249,375
Fresh Market Consumption	245,746	245,120	261,932	276,805	263,173	217,248	227,715	249,375
Domestic Production	42,158	39,113	45,819	41,430	45,834	49,638	53,619	47,268
Imported Fresh	203,588	206,008	216,113	235,375	217,339	167,610	174,096	202,107
Domestic Producers' Market Share of:								
Total Market (%)	17	16	17	15	17	23	24	19
Fresh Market (%)	17	16	17	15	17	23	24	19
Per Capita Disappearance (kg)	10.20	9.95	10.32	10.92	10.25	8.38	8.67	9.69
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* This table applies only to fresh production. There is processed production in Canada, however, the statistics are not available.
** Fresh figures from 1980 to 1987 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Lettuce crop year from May 1 to April 30.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table V

MUSHROOMS

CANADIAN SUPPLY AND DISPOSITION

Calendar Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	29,265	35,388	45,092	50,454	45,718	50,573	52,201	48,808
Imports	35,319	35,207	42,076	35,549	29,275	30,439	38,890	35,246
Fresh	1,224	1,817	3,252	2,612	3,364	4,923	6,465	4,123
Processed	34,095	33,390	38,824	32,938	25,911	25,517	32,425	31,123
Imports as % of Production	121	99	93	70	64	60	75	72
Supply Available	64,584	70,595	87,168	86,003	74,993	81,012	91,091	84,053
Available for Consumption in Processed Form	41,947	44,140	52,232	48,124	36,061	37,784	44,391	43,718
Domestic Production	7,852	10,750	13,408	15,186	10,150	12,267	11,966	12,595
Imported Processed	34,095	33,390	38,824	32,938	25,911	25,517	32,425	31,123
Available for Fresh Market	22,637	26,455	34,936	37,880	38,932	43,229	46,700	40,335
Domestic Production	21,413	24,638	31,684	35,268	35,568	38,306	40,235	36,212
Imported Fresh	1,224	1,817	3,252	2,612	3,364	4,923	6,465	4,123
Exports	594	466	330	954	749	2,531	2,650	1,443
Fresh*	320	289	34	537	373	1,506	1,210	732
Processed*	273	177	296	417	376	1,025	1,440	711
Exports as % of Production	2	1	1	2	2	5	5	3
Domestic Disappearance	63,990	70,129	86,838	85,050	74,244	78,481	88,441	82,611
Consumed in Processed Form	41,674	43,963	51,936	47,707	35,685	36,759	42,951	43,008
Domestic Production	7,579	10,572	13,112	14,769	9,774	11,242	10,526	11,885
Imported Processed	34,095	33,390	38,824	32,938	25,911	25,517	32,425	31,123
Fresh Market Consumption	22,316	26,166	34,902	37,343	38,559	41,722	45,490	39,603
Domestic Production	21,092	24,349	31,650	34,731	35,195	36,800	39,025	35,480
Imported Fresh	1,224	1,817	3,252	2,612	3,364	4,923	6,465	4,123
Domestic Producers' Market Share of:								
Total Market (%)	45	50	52	58	61	61	56	57
Processed Market (%)	18	24	25	31	27	31	25	28
Fresh Market (%)	95	93	91	93	91	88	86	90
Per Capita Disappearance (kg)	2.66	2.85	3.42	3.35	2.89	3.03	3.37	3.21
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* Frozen figures from 1980 to 1988 as well as dried and fresh figures from 1980 to 1987 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table VI

ONIONS

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	106,235	126,658	149,238	117,805	129,182	120,612	139,502	131,268
Imports	102,621	88,208	85,624	110,746	120,336	101,727	111,836	106,054
Fresh	52,310	52,507	53,460	70,595	74,137	46,820	59,089	60,820
Processed	50,312	35,701	32,164	40,152	46,199	54,907	52,747	45,234
Imports as % of Production	97	70	57	94	93	84	80	81
Supply Available	208,856	214,866	234,863	228,551	249,518	222,339	251,338	237,322
Exports	12,339	17,201	29,715	13,058	24,053	8,449	19,147	18,885
Fresh*	11,036	15,379	26,598	10,418	20,280	6,633	18,806	16,547
Processed**	1,303	1,822	3,117	2,640	3,774	1,816	341	2,337
Exports as % of Production	12	14	20	11	19	7	14	14
Domestic Disappearance	196,517	197,666	205,148	215,493	225,464	213,890	232,191	218,437
Consumed from:								
Domestic Fresh and Processed	93,896	109,458	119,523	104,746	105,128	112,163	120,355	112,383
Imported	102,621	88,208	85,624	110,746	120,336	101,727	111,836	106,054
Fresh	52,310	52,507	53,460	70,595	74,137	46,820	59,089	60,820
Processed	50,312	35,701	32,164	40,152	46,199	54,907	52,747	45,234
Domestic Producers' Market Share of:								
Total Market (%)	48	55	58	49	47	52	52	51
Per Capita Disappearance (kg)	8.16	8.02	8.08	8.50	8.79	8.25	8.84	8.49
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* All fresh export figures include shallots.
** Figures for dried and preserved onions from 1980 to 1987 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Onion crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table VII

GREEN PEAS

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production*	68,593	66,206	80,652	50,214	44,142	54,251	70,869	60,026
Imports	3,175	2,567	1,756	2,329	3,280	7,272	6,811	4,289
Fresh**								
Processed	3,175	2,567	1,756	2,329	3,280	7,272	6,811	4,289
Imports as % of Production	5	4	2	5	7	13	10	7
Supply Available	71,768	68,773	82,408	52,544	47,421	61,523	77,680	64,315
Available for Consumption in Processed Form	71,768	68,773	82,408	52,544	47,421	61,523	77,680	64,315
Domestic Production	68,593	66,206	80,652	50,214	44,142	54,251	70,869	60,026
Imported Processed	3,175	2,567	1,756	2,329	3,280	7,272	6,811	4,289
Total Exports	6,799	7,279	4,969	6,476	5,762	9,721	10,539	7,493
Fresh								
Processed	6,799	7,279	4,969	6,476	5,762	9,721	10,539	7,493
Exports as % of Production	10	11	6	13	13	18	15	12
Domestic Disappearance	64,968	61,494	77,439	46,068	41,659	51,802	67,141	56,822
Consumed in Processed Form	64,968	61,494	77,439	46,068	41,659	51,802	67,141	56,822
Domestic Production	61,793	58,927	75,683	43,739	38,380	44,530	60,330	52,532
Imported Processed	3,175	2,567	1,756	2,329	3,280	7,272	6,811	4,289
Domestic Producers' Market Share of:								
Total Market (%)	95	96	98	95	92	86	90	92
Processed Market (%)	95	96	98	95	92	86	90	92
Per Capita Disappearance (kg)	2.70	2.50	3.05	1.82	1.62	2.00	2.56	2.21
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* This table only applies to processed production. There is fresh production in Canada, however the statistics are not available.
** Fresh imports of about 3 thousand tonnes per year, consisting mainly of snow peas, are excluded.
Pea crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada.

Table VIII

POTATOES

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	2,479,459	2,643,423	2,993,785	2,761,274	3,032,793	2,720,860	2,810,897	2,863,922
Imports	152,656	164,363	173,368	194,019	221,911	259,258	315,413	232,794
Fresh	124,096	132,450	135,012	152,885	170,540	200,179	200,829	171,889
Seed	5,782	7,771	10,649	9,643	8,843	11,565	9,291	9,998
Processed	22,778	24,142	27,707	31,491	42,528	47,514	105,293	50,907
Imports as % of Production	6	6	6	7	7	10	11	8
Supply Available	2,632,115	2,807,786	3,167,153	2,955,293	3,254,705	2,980,118	3,126,310	3,096,716
Available for Consumption in Processed Form	925,770	1,001,468	1,159,814	1,137,364	1,291,852	1,169,988	1,257,761	1,203,356
Domestic Production*	902,992	977,326	1,132,107	1,105,873	1,249,325	1,122,474	1,152,468	1,152,449
Imported Processed	22,778	24,142	27,707	31,491	42,528	47,514	105,293	50,907
Available for Fresh Market	1,706,345	1,806,317	2,007,339	1,817,929	1,962,853	1,810,130	1,868,549	1,893,360
Domestic Production	1,576,467	1,666,097	1,861,678	1,655,401	1,783,469	1,598,386	1,658,429	1,711,473
Imported Fresh	129,878	140,221	145,661	162,527	179,384	211,744	210,120	181,887
Exports	336,186	387,327	388,084	497,085	508,112	741,361	719,778	570,884
Fresh	126,763	165,425	142,595	212,002	183,436	346,198	315,183	239,883
Seed	156,687	127,751	80,243	96,917	90,423	122,211	147,535	107,466
Processed**	52,736	94,151	165,245	188,167	234,252	272,952	257,060	223,535
Exports as % of Production	14	15	13	18	17	27	26	20
Domestic Disappearance	2,295,929	2,420,459	2,779,069	2,458,208	2,746,593	2,238,757	2,406,531	2,525,832
Consumed in Processed Form	873,034	907,317	994,569	949,198	1,057,600	897,036	1,000,700	979,821
Domestic Production	850,256	883,175	966,862	917,706	1,015,072	849,522	895,407	928,914
Imported Processed	22,778	24,142	27,707	31,491	42,528	47,514	105,293	50,907
Fresh Market Consumption	1,422,895	1,513,142	1,784,500	1,509,010	1,688,993	1,341,721	1,405,831	1,546,011
Domestic Production	1,293,017	1,372,921	1,638,839	1,346,483	1,509,610	1,129,977	1,195,711	1,364,124
Imported Fresh	129,878	140,221	145,661	162,527	179,384	211,744	210,120	181,887
Domestic Producers' Market Share of:								
Total Market (%)	93	93	94	92	92	88	87	91
Processed Market (%)	97	97	97	97	96	95	89	95
Fresh Market (%)	91	91	92	89	89	84	85	88
Per Capita Disappearance (kg)	95.32	98.26	109.50	96.96	107.02	86.31	91.60	98.20
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* 1980-88 figures are from the National Farm Product Marketing Council and Agriculture Canada while the 1989 figure is a Tribunal estimate.
** Figures for potato flakes, flour, starch and chips as well as dried potatoes from 1980 to 1987 (to 1989 in the case of chips) are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Potato crop year from July 1 to June 30.
Totals may not agree due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table IX

TOMATOES

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	430,148	512,515	558,397	553,991	561,964	615,783	629,301	583,887
Field	415,334	497,183	542,896	533,239	538,465	591,949	604,938	562,297
Greenhouse	14,813	15,332	15,502	20,753	23,500	23,835	24,363	21,590
Imports	386,552	388,867	354,343	352,435	360,527	386,151	427,394	376,170
Fresh	131,850	147,158	142,160	145,362	137,224	131,117	141,847	139,542
Processed	254,702	241,709	212,183	207,074	223,303	255,034	285,547	236,628
Imports as % of Production	90	76	63	64	64	63	68	64
Supply Available	816,700	901,382	912,740	906,427	922,492	1,001,934	1,056,695	960,058
Available for Consumption in Processed Form	634,757	687,201	703,831	681,740	701,228	773,878	824,895	737,114
Domestic Production	380,055	445,492	491,647	474,667	477,924	518,844	539,348	500,486
Imported processed	254,702	241,709	212,183	207,074	223,303	255,034	285,547	236,628
Available for Fresh Market	181,943	214,181	208,910	224,686	221,264	228,056	231,800	222,943
Domestic Production	50,093	67,023	66,750	79,325	84,040	96,939	89,953	83,401
Imported Fresh	131,850	147,158	142,160	145,362	137,224	131,117	141,847	139,542
Exports	1,253	4,330	10,369	9,980	7,482	17,468	16,191	12,298
Fresh	703	799	1,210	2,218	2,336	2,557	2,717	2,208
Processed*	550	3,531	9,159	7,762	5,146	14,911	13,475	10,090
Exports as % of Production	0	1	2	2	1	3	3	2
Domestic Disappearance	815,446	897,052	902,371	896,446	915,010	984,466	1,040,504	947,759
Consumed in Processed Form	634,207	683,670	694,671	673,978	696,082	758,967	811,421	727,024
Domestic Production	379,505	441,961	482,488	466,905	472,779	503,933	525,873	490,396
Imported Processed	254,702	241,709	212,183	207,074	223,303	255,034	285,547	236,628
Fresh Market Consumption	181,239	213,382	207,700	222,468	218,928	225,499	229,083	220,736
Domestic Production	49,389	66,224	65,541	77,107	81,704	94,382	87,236	81,194
Imported Fresh	131,850	147,158	142,160	145,362	137,224	131,117	141,847	139,542
Domestic Producers' Market Share of:								
Total Market (%)	53	57	61	61	61	61	59	60
Processed Market (%)	60	65	69	69	68	66	65	67
Fresh Market (%)	27	31	32	35	37	42	38	37
Per Capita Disappearance (kg)	33.86	36.42	35.55	35.36	35.65	37.95	39.60	36.85
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* Ketchup & sauce, canned and paste figures from 1980 to 1987 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Tomato crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table X

APPLES

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	552,583	474,336	478,604	388,173	505,891	500,746	536,719	482,027
Imports	198,333	280,735	349,952	413,711	357,321	326,230	330,998	355,642
Fresh	64,830	97,246	99,020	131,050	130,475	87,005	98,929	109,296
Processed	133,503	183,489	250,932	282,661	226,846	239,225	232,069	246,347
Imports as % of Production	36	59	73	107	71	65	62	74
Supply Available	750,917	755,071	828,556	801,884	863,212	826,976	867,717	837,669
Available for Consumption in Processed Form	336,999	378,784	451,134	451,807	471,868	483,894	479,968	467,734
Domestic Production	203,496	195,296	200,202	169,146	245,022	244,669	247,899	221,388
Imported Processed	133,503	183,489	250,932	282,661	226,846	239,225	232,069	246,347
Available for Fresh Market	413,918	376,286	377,422	350,077	391,344	343,082	387,749	369,935
Domestic Production	349,087	279,040	278,402	219,027	260,869	256,077	288,820	260,639
Imported Fresh	64,830	97,246	99,020	131,050	130,475	87,005	98,929	109,296
Exports	94,183	83,193	78,002	78,241	101,890	73,450	76,490	81,615
Fresh	77,878	65,998	60,441	57,101	63,465	56,841	61,450	59,860
Processed*	16,305	17,195	17,561	21,140	38,425	16,608	15,040	21,755
Exports as % of Production	17	18	16	20	20	15	14	17
Domestic Disappearance	656,734	671,878	750,554	723,643	761,322	753,526	791,227	756,054
Consumed in Processed Form	320,694	361,590	433,573	430,667	433,443	467,286	464,928	445,979
Domestic Production	187,191	178,101	182,641	148,006	206,597	228,061	232,859	199,633
Imported Processed	133,503	183,489	250,932	282,661	226,846	239,225	232,069	246,347
Fresh Market Consumption	336,040	310,289	316,981	292,976	327,879	286,241	326,299	310,075
Domestic Consumption	271,209	213,043	217,961	161,926	197,404	199,236	227,370	200,779
Imported Fresh	64,830	97,246	99,020	131,050	130,475	87,005	98,929	109,296
Domestic Producers' Market Share of:								
Total Market (%)	70	58	53	43	53	57	58	53
Processed Market (%)	58	49	42	34	48	49	50	45
Fresh Market (%)	81	69	69	55	60	70	70	65
Per Capita Disappearance (kg)	27.27	27.28	29.57	28.54	29.66	29.05	30.12	29.39
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* Dried figures from 1980 to 1987 and canned figures from 1987 to 1989 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
Apple crop year from September 1 to August 31.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table XI

BLUEBERRIES

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	13,647	18,903	22,432	16,557	29,784	31,833	27,527	25,627
Imports	3,656	5,109	4,917	6,521	6,468	7,674	4,470	6,010
Fresh	2,405	3,795	3,302	5,253	5,039	4,944	3,248	4,357
Processed	1,251	1,314	1,615	1,268	1,429	2,731	1,222	1,653
Imports as % of Production	27	27	22	39	22	24	16	23
Supply Available	17,303	24,012	27,349	23,078	36,252	39,507	31,997	31,637
Exports	13,204	15,404	17,070	13,336	25,671	26,108	21,508	20,739
Fresh	2,068	3,140	4,622	4,280	8,196	10,683	4,953	6,547
Processed	11,136	12,263	12,448	9,056	17,476	15,425	16,555	14,192
Exports as % of Production	97	81	76	81	86	82	78	81
Domestic Disappearance	4,099	8,608	10,278	9,742	10,580	13,399	10,489	10,898
Consumed from:								
Domestic Fresh and Processed	443	3,499	5,361	3,221	4,113	5,725	6,019	4,888
Imported	3,656	5,109	4,917	6,521	6,468	7,674	4,470	6,010
Fresh	2,405	3,795	3,302	5,253	5,039	4,944	3,248	4,357
Processed	1,251	1,314	1,615	1,268	1,429	2,731	1,222	1,653
Domestic Producers' Market Share of:								
Total Market (%)	11	41	52	33	39	43	57	45
Per Capita Disappearance (kg)	0.17	0.35	0.40	0.38	0.41	0.52	0.40	0.42
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

Blueberry crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada.

Table XII

PEACHES

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	40,946	34,369	42,204	33,199	44,865	44,085	39,516	40,774
Imports	50,165	47,958	39,249	44,353	42,741	42,595	39,860	41,760
Fresh	21,698	23,666	17,305	18,066	18,577	18,122	19,873	18,389
Processed	28,467	24,292	21,944	26,286	24,164	24,473	19,987	23,371
Imports as % of Production	123	140	93	134	95	97	101	102
Supply Available	91,112	82,327	81,453	77,552	87,606	86,680	79,376	82,533
Available for Consumption in Processed Form	34,235	29,185	29,509	31,385	32,958	31,784	26,681	30,463
Domestic Production	5,768	4,893	7,565	5,098	8,794	7,311	6,694	7,092
Imported Processed	28,467	24,292	21,944	26,286	24,164	24,473	19,987	23,371
Available for Fresh Market	56,877	53,142	51,944	46,167	54,648	54,896	52,695	52,070
Domestic Production	35,179	29,476	34,639	28,101	36,070	36,774	32,822	33,681
Imported Fresh	21,698	23,666	17,305	18,066	18,577	18,122	19,873	18,389
Exports	1	75	603	224	265	871	285	450
Fresh*	1	75	603	224	265	322	260	335
Processed**	-	-	-	-	-	549	25	115***
Exports as % of Production	0	0	1	1	1	2	1	1
Domestic Disappearance	91,110	82,252	80,850	77,327	87,341	85,809	79,091	82,084
Consumed in Processed Form	34,235	29,185	29,509	31,385	32,958	31,234	26,656	30,348
Domestic Production	5,768	4,893	7,565	5,098	8,794	6,762	6,669	6,978
Imported Processed	28,467	24,292	21,944	26,286	24,164	24,473	19,987	23,371
Fresh Market Consumption	56,876	53,067	51,341	45,943	54,383	54,574	52,435	51,735
Domestic Production	35,177	29,401	34,036	27,876	35,805	36,453	32,562	33,346
Imported Fresh	21,698	23,666	17,305	18,066	18,577	18,122	19,873	18,389
Domestic Producers' Market Share of:								
Total Market (%)	45	42	51	43	51	50	50	49
Processed Market (%)	17	17	26	16	27	22	25	23
Fresh Market (%)	62	55	66	61	66	67	62	64
Per Capita Disappearance (kg)	3.78	3.34	3.19	3.05	3.40	3.31	3.01	3.19
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

* Fresh figures from 1980 to 1987 are from the U.S. Department of Commerce and are for Canadian exports to the United States.
** Data only available beginning in 1988.
*** Five-year average based on two years of data.
Peach crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada, U.S. Department of Commerce.

Table XIII

PEARS

CANADIAN SUPPLY AND DISPOSITION

Crop Years 1980-89
(tonnes)

	1980	Average 1980-84	1985	1986	1987	1988	1989	Average 1985-89
Production	39,403	30,977	28,217	23,673	27,623	23,300	21,273	24,817
Imports	32,030	37,346	42,980	48,941	55,321	53,903	54,987	51,226
Fresh	25,133	29,655	33,061	39,438	45,164	44,585	48,460	42,142
Processed	6,897	7,692	9,919	9,503	10,157	9,318	6,527	9,085
Imports as % of Production	81	121	152	207	200	231	258	206
Supply Available	71,434	68,323	71,197	72,614	82,944	77,203	76,260	76,044
Available for Consumption in Processed Form	23,493	18,349	18,156	16,078	17,147	15,130	12,279	15,758
Domestic Production	16,596	10,658	8,236	6,575	6,990	5,812	5,752	6,673
Imported Processed	6,897	7,692	9,919	9,503	10,157	9,318	6,527	9,085
Available for Fresh Market	47,940	49,974	53,041	56,536	65,797	62,073	63,981	60,286
Domestic Production	22,807	20,319	19,981	17,098	20,633	17,488	15,521	18,144
Imported Fresh	25,133	29,655	33,061	39,438	45,164	44,585	48,460	42,142
Exports	1,265	910	920	317	189	577	1,315	664
Fresh	1,261	767	775	303	150	576	664	494
Processed	4	142	145	14	39	1	651	170
Exports as % of Production	3	3	3	1	1	2	6	3
Domestic Disappearance	70,168	67,414	70,277	72,297	82,755	76,626	74,945	75,380
Consumed in Processed Form	23,489	18,207	18,011	16,064	17,108	15,129	11,628	15,588
Domestic Production	16,592	10,515	8,092	6,561	6,951	5,811	5,101	6,503
Imported Processed	6,897	7,692	9,919	9,503	10,157	9,318	6,527	9,085
Fresh Market Consumption	46,679	49,207	52,266	56,233	65,647	61,497	63,317	59,792
Domestic Production	21,547	19,552	19,205	16,795	20,483	16,912	14,857	17,650
Imported Fresh	25,133	29,655	33,061	39,438	45,164	44,585	48,460	42,142
Domestic Producers' Market Share of:								
Total Market (%)	54	45	39	32	33	30	27	32
Processed Market (%)	71	58	45	41	41	38	44	42
Fresh Market (%)	46	40	37	30	31	28	23	30
Per Capita Disappearance (kg)	2.91	2.74	2.77	2.85	3.22	2.95	2.85	2.93
Population (000)	24,086	24,633	25,380	25,354	25,664	25,939	26,273	25,722

Note:

Pear crop year from July 1 to June 30.
Totals may not add due to rounding.

Source: Statistics Canada.

APPENDIX H

SELECTED MEASURES FROM THE FRESH FRUIT AND VEGETABLE PROFILES

1980-84 Average

	Value of Industry (1989) %	Cdn. Prod. as a % of Avail. Supply (Prod.+Imp.)	Cdn. Prod.	Consumption					
				Processed			Fresh		
				Total	Domestic	Imported	Total	Domestic	Imported
				as a % of Total (Fresh + Processed) Consumption					
Vegetables									
Potatoes	39.8	94.1	109.2	37.5	36.5	1.0	62.5	57.0	5.5
Mushrooms	14.0	50.1	50.5	62.7	15.1	47.6	37.3	34.7	2.6
Tomatoes	12.4	56.9	57.1	76.2	49.3	26.9	23.8	7.4	16.4
Corn	5.8	91.1	112.6	69.7	66.0	3.7	30.3	23.0	7.3
Cucumbers	4.6	66.6	68.1	43.8	40.8	2.9	56.2	25.1	31.1
Carrots	3.9	81.2	97.1	17.6	15.6	2.0	82.4	62.0	20.4
Cabbage	3.0	80.3	83.2	-	-	0.6	-	-	19.9
Onions	2.7	58.9	64.1	-	-	18.1	-	-	26.6
Green Peas	2.5	96.3	107.7	100.0	95.8	4.2	-	-	-
Lettuce	2.2	17.5	17.8	-	-	-	100.0	16.0	84.0
Cauliflower	1.8	65.5	70.0	-	-	-	-	-	36.9
Beans	1.5	81.3	85.1	66.6	63.4	3.3	33.4	17.1	16.3
Rutabagas	1.4	98.3	140.6	-	-	-	100.0	97.6	2.4
Celery	1.2	29.9	30.9	-	-	-	100.0	27.7	72.3
Peppers	1.0	27.5	27.5	-	-	-	100.0	27.5	72.5
Asparagus	0.7	25.4	32.3	-	-	4.0	-	-	91.1
Beets	0.4	92.1	93.9	1.5	-	1.5	98.5	91.9	6.6
Radishes	0.3	27.3	28.2	-	-	-	100.0	24.7	75.3
Brussels Sprouts	0.2	41.7	44.4	-	-	1.9	-	-	60.2
Broccoli	0.2	23.6	23.6	9.2	5.0	4.2	90.8	18.5	72.3
Spinach	0.2	22.0	22.0	17.7	-	17.7	82.3	22.0	60.3
Parsnips	0.1	75.1	77.0	-	-	-	100.0	74.4	25.6
Fruits									
Apples	33.7	62.8	70.6	53.8	26.5	27.3	46.2	31.7	14.5
Strawberries	15.4	54.4	55.1	21.2	10.3	10.9	78.8	43.7	35.2
Blueberries	11.2	78.7	219.6	-	-	15.3	-	-	44.1
Raspberries	10.1	94.0	140.8	81.2	75.5	5.7	18.8	15.6	3.2
Grapes	9.3	15.4	15.5	-	-	56.8	-	-	28.5
Peaches	8.4	41.7	41.8	35.5	5.9	29.5	64.5	35.7	28.8
Cranberries	4.8	67.7	181.1	-	-	5.6	-	-	80.6
Cherries	3.4	51.3	55.5	55.5	29.1	26.5	44.5	18.2	26.3
Pears	2.9	45.3	46.0	27.0	15.6	11.4	73.0 29.0	44.0	53.7
Plums & Prunes	0.8	17.6	17.6	21.2	1.5	19.7	78.8 16.0	62.8	65.3

Note: Calculations may not appear to add exactly due to the presence of non-displayed decimals.

Source: Fresh Fruit and Vegetable Profiles, the Tribunal, May 1991.

SELECTED MEASURES FROM THE FRESH FRUIT AND VEGETABLE PROFILE

1985-88 Average

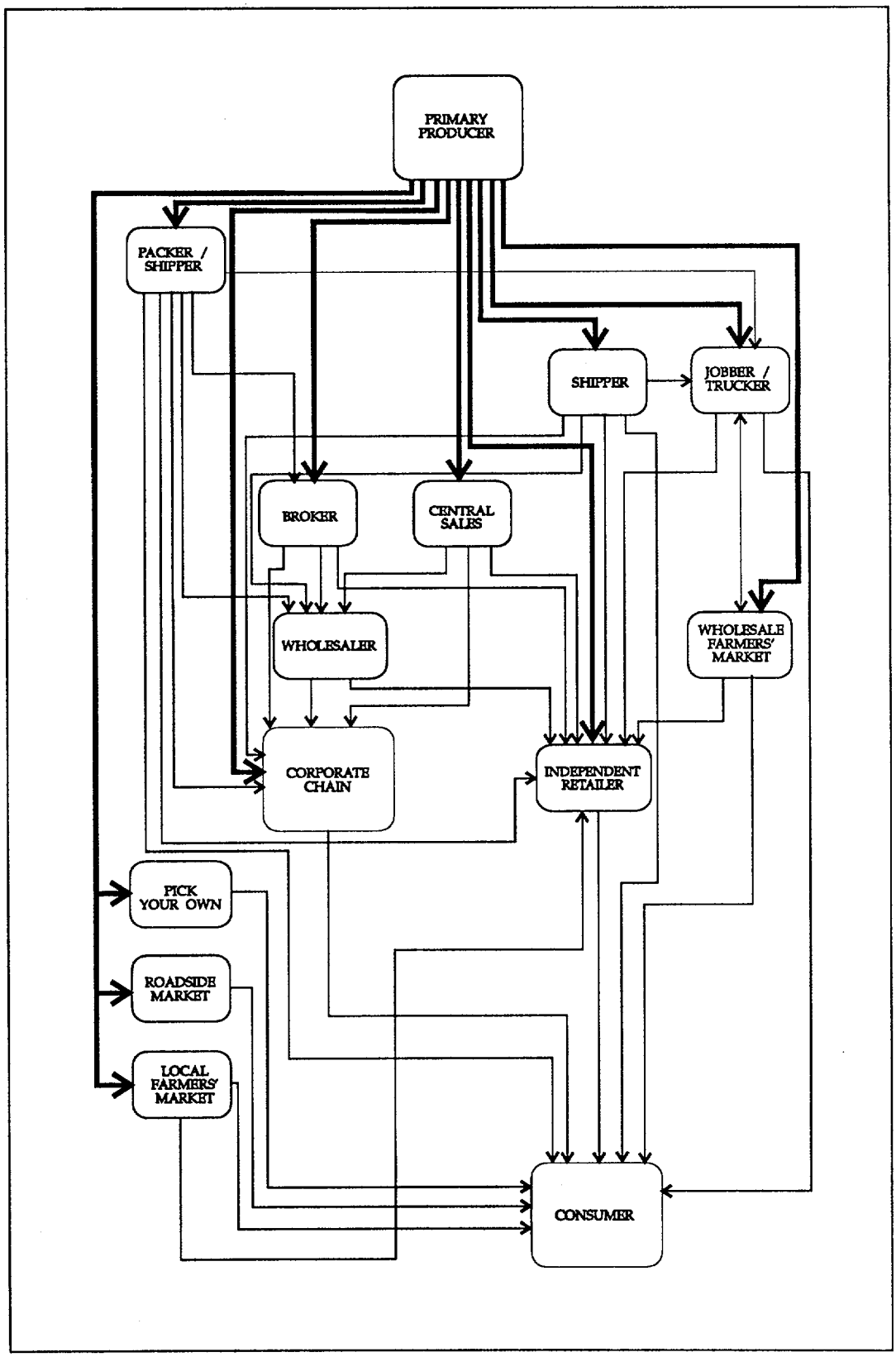
	Value of Industry (1989) %	Cdn. Prod. as a % of Avail. Supply (Prod.+Imp.)	Cdn. Prod.	Consumption					
				Processed			Fresh		
				Total	Domestic	Imported	Total	Domestic	Imported
				as a % of Total (Fresh + Processed) Consumption					
Vegetables									
Potatoes	39.8	93.2	112.5	37.9	36.5	1.5	62.1	55.7	6.4
Mushrooms	14.0	58.1	59.1	52.1	14.4	37.7	47.9	42.9	5.0
Tomatoes	12.4	61.2	61.9	76.4	52.1	24.3	23.6	8.6	15.0
Corn	5.8	91.0	108.5	66.1	63.2	3.0	33.9	26.1	7.8
Cucumbers	4.6	63.2	64.8	36.3	32.0	4.3	63.7	30.2	33.5
Carrots	3.9	77.8	91.2	22.4	19.4	3.0	77.6	54.6	23.0
Cabbage	3.0	81.8	86.8	-	-	1.9	-	-	17.4
Onions	2.7	54.8	59.6	-	-	20.4	-	-	28.8
Green Peas	2.5	94.0	105.7	100.0	93.3	6.7	-	-	-
Lettuce	2.2	19.2	19.5	-	-	-	100.0	18.0	82.0
Cauliflower	1.8	51.1	53.2	-	-	-	-	-	51.0
Beans	1.5	77.5	84.8	60.1	57.9	2.2	39.9	17.5	22.4
Rutabagas	1.4	97.9	126.9	-	-	-	100.0	97.3	2.7
Celery	1.2	29.2	30.1	-	-	-	100.0	27.2	72.8
Peppers	1.0	31.9	32.2	-	-	-	100.0	31.2	68.8
Asparagus	0.7	27.1	32.3	-	-	2.5	-	-	84.2
Beets	0.4	89.4	91.1	2.8	-	2.8	97.2	89.2	8.0
Radishes	0.3	31.1	31.7	-	-	-	100.0	29.7	70.3
Brussels Sprouts	0.2	46.0	49.9	-	-	1.0	-	-	57.6
Broccoli	0.2	26.3	26.4	6.5	4.5	2.0	93.5	21.7	71.8
Spinach	0.2	16.5	16.5	18.1	-	18.2	81.9	16.4	65.5
Parsnips	0.1	79.6	80.7	-	-	-	100.0	79.3	20.7
Fruits									
Apples	33.7	56.4	62.7	58.4	25.0	33.4	41.6	26.6	15.0
Strawberries	15.4	49.2	50.0	17.7	7.3	10.4	82.3	41.0	41.3
Blueberries	11.2	79.7	228.6	-	-	16.0	-	-	42.1
Raspberries	10.1	92.0	171.3	81.6	75.7	5.9	18.4	9.5	8.9
Grapes	9.3	14.3	14.8	-	-	60.3	-	-	28.4
Peaches	8.4	49.3	49.6	37.8	8.5	29.2	62.2	40.5	21.8
Cranberries	4.8	71.0	206.7	-	-	5.8	-	-	78.6
Cherries	3.4	49.1	52.3	57.6	27.1	30.6	42.4	18.6	23.7
Pears	2.9	33.8	34.0	22.0	9.1	12.9	78.0	24.3	53.7
Plums & Prunes	0.8	13.6	13.6	22.0	0.8	21.2	78.0	12.8	65.3

Note: Calculations may not appear to add exactly due to the presence of non-displayed decimals.

Source: Fresh Fruit and Vegetable Profiles, the Tribunal, May 1991.

APPENDIX I

MARKETING CHANNELS



APPENDIX J

ACTIVITY OF REGULATORY BOARDS FOR FIELD VEGETABLES BY PROVINCE

	British Columbia	Alberta	Sask.	Manitoba	Ontario	Quebec	New Brunswick	P.E.I.	Nova Scotia	Nfld.
ASPARAGUS					A1,B,C	B				
BROCCOLI	B									
BRUSSELS SPROUTS	B									
CABBAGE	A	A			B,C					A
CARROTS	A	A	A		B,C					A
CAULIFLOWER	A	A			B,C					
CUCUMBER		A			B,C	B				
GREEN BEANS	B	A			B,C	B			B	
LIMA BEANS					B,C					
YELLOW BEANS						B				
LETTUCE	A	A								
MUSHROOMS	A									
ONIONS	A	A	A	A,C						
PARSNIPS		A	A	A,C						
PEAS	B				B,C	B			B	
PEPPERS					B,C					
POTATO (FRESH)	A	A	A	A,C	A,C				A	A
POTATO (PROCESSED)					B,C		B	B		
PUMPKIN		A								
RED BEETS		A								A
RUTABAGAS	A	A	A	A,C						
SPINACH		A								
SQUASH		A			B,C					
SWEET CORN	B	A			B,C	B				
TOMATOES					B,C	B				
WAX BEANS					B,C					

LEGEND: **A - establishes fresh price; A1 - establishes processed price; B - negotiates processed price; C - regulates conditions of sale.**

ACTIVITY OF REGULATORY BOARDS FOR FRUIT CROPS BY PROVINCE

	British Columbia	Alberta	Sask.	Manitoba	Ontario	Quebec	New Brunswick	P.E.I.	Nova Scotia	Nfld.
APPLES					A,A1		A2			
JUICE APPLES					B					
BLUEBERRIES										
CRANBERRIES										
GRAPES	B,C				A,C					
STRAWBERRIES	B									

LEGEND: **A - establishes fresh price; A1 - establishes processed price; A2 - committee negotiates fresh price; B - negotiates processed price; C - regulates conditions of sale.**

ACTIVITY OF REGULATORY BOARDS FOR FRUIT AND VEGETABLE CROP GROUPINGS BY PROVINCE

	British Columbia	Alberta	Sask.	Manitoba	Ontario	Quebec	New Brunswick	P.E.I.	Nova Scotia	Nfld.
BERRIES										
TENDER FRUIT										
TREE FRUIT					A,C					
VEGETABLES										
VEGETABLES (PROCESSED)										
GREENHOUSE VEGETABLES - TOMATOES - CUCUMBERS	 A A				A,C					
ROOT CROPS										

LEGEND: **A - establishes fresh price; C - regulates conditions of sale.**

APPENDIX K

COMMODITIES AND AMERICAN STATES INCLUDED IN ANALYSIS OF GOVERNMENT INTERVENTIONS

	CA	ME	MI	NY	ND	OH	PA	SC	WA	WI	FED
Vegetables											
Potatoes		X			X				X		X
Mushrooms							X				X
Tomatoes	X					X					X
Sweet Corn										X	X
Carrots	X		X								X
Onions				X							X
Lettuce	X			X							X
Peas										X	X
Beans										X	X
Fruits											
Apples				X					X		X
Blueberries		X									X
Peaches	X							X			X
Pears	X										X

LEGEND:

CA = California
ME = Maine
MI = Michigan
NY = New York
ND = North Dakota
OH = Ohio
PA = Pennsylvania
SC = South Carolina
WA = Washington
WI = Wisconsin
FED = Federal Government

APPENDIX L

COMPARISON OF CANADIAN AND U.S. TARIFF RATES MAJOR PRODUCTS - 1991

	CANADIAN RATES		U.S. RATES	
	U.S. IMPORTS	MFN	CANADIAN IMPORTS	MFN
FRESH VEGETABLES				
Potatoes	0.54¢	0.772¢	0.5¢	0.77¢
Mushrooms	6.9¢, min 7.0%	9.92¢, min 10%	7.7¢, plus 17.5%	11¢, plus 25%
-for processing	6.9¢, min 7.0%	9.92¢, min 10%	N/A	N/A
Tomatoes				
-in season	3.8¢, min 10.5%	5.51¢, min 15%	3.2¢	4.6¢
-out of season	FREE	FREE	2.3¢	3.3¢
-for processing	1.5¢, min 10.5%	2.21¢, min 15%	N/A	N/A
Corn (sweet)			17.5%	25%
-in season (a)	2.3¢, min 10.5%	3.31¢, min 15%	N/A	N/A
-out of season	FREE	FREE	N/A	N/A
Cucumbers				
-in season	3.4¢, min 10.5%	4.96¢, min 15%	4.6¢	6.6¢
-out of season	FREE	FREE	2.3¢	3.3¢
-for processing	1.5¢, min 7.0%	2.21¢, min 10%	N/A	N/A
Carrots			.77¢	1.1¢
-in season (a)	0.7¢	1.1¢	N/A	N/A
-out of season	FREE		N/A	N/A
Lettuce				
-in season (a)	1.9¢, min 10.5%	2.76¢, min 15%	0.62¢	0.88¢
-out of season	FREE	FREE	3.1¢	4.4¢
Celery				
-in season (a)	3¢, min 10.5%	4.41¢, min 15%	1.54¢	2.2¢
-out of season	FREE	FREE	0.39¢	0.55¢
Peppers			3.85¢	5.5¢
-in season	3¢, min 7.0%	4.41¢, min 10%	N/A	N/A
-out of season	FREE	FREE	N/A	N/A
Asparagus				
-in season	8.4¢, min 10.5%	12.13¢, min 15%	17.5%	25%
-out of season	FREE	FREE	3.5%	5%
-for processing	7.7¢, min 10.5%	11.02¢, min 15%	N/A	N/A
Broccoli			17.5%	25%
-in season	3.8¢, min 10.5%	5.51¢, min 15%	N/A	N/A
-out of season	FREE	FREE	N/A	N/A
-for processing	2.3¢, min 7%	3.31¢, min 10%	N/A	N/A
FRESH FRUITS				
Apples	FREE	FREE	FREE	FREE
Strawberries				
-in season	4.6¢, min 7.0%	6.61¢, min 10%	1.19¢	1.7¢
-out of season	FREE	FREE	0.28¢	0.4¢
-for processing	4.6¢, min 7.0%	6.61¢, min 10%	N/A	N/A
Blueberries	FREE	FREE	FREE	FREE
Grapes (Labrusca)				
-in season	1.5¢	2.21¢	0.99 or 1.48 $/m^3	1.41 or 2.12 $/m^3
-out of season	7.0%	10%	FREE	FREE
Peaches				
-in season	4.6¢, min 8.7%	6.61¢, min 12.5%	0.28¢	0.4¢
-out of season	FREE	FREE	FREE	FREE
-for processing	3¢, min 8.7%	4.41¢, min 12.5%	N/A	N/A
Pears				
-in season	2.3¢, min 8.7%	3.31¢, min 12.5%	0.77¢	1.1¢
-out of season	FREE	FREE	FREE	FREE
-for processing	2.3¢, min 8.7%	3.31¢, min 12.5%	N/A	N/A

COMPARISON OF CANADIAN AND U.S. TARIFF RATES
MAJOR PRODUCTS - 1991

	CANADIAN RATES		U.S. RATES	
	U.S. IMPORTS	MFN	CANADIAN IMPORTS	MFN
PROCESSED FRUITS AND VEGETABLES				
Canned Tomatoes	9.5%	13.6%	10.29%	14.7%
Canned Tomato Paste	9.5%	13.6%	9.52%	13.6%
Canned Mushrooms	14%	20%	4.97¢, plus 7.0%	7.1¢ plus 10%
Potatoes, frozen	7%	10%	7%	10%
Potato chips, flakes, frills	7%	10%	7%	10%
Canned sweet corn	8.7%	12.5%	8.75%	12.5%
Apple juice, concentrated, for use in the manufacture of apple juice	7.7¢/L, min 7%	11¢/L, min 10%	FREE	FREE
Apple juice, concentrated or reconstituted	7%	10%	FREE	FREE
Frozen orange juice, unsweetened concentrate, for use in the manufacture of citrus fruit juices	FREE	FREE	6.475¢/litre	9.25¢/litre
Frozen orange juice	2.1%	3%	6.475¢/litre	9.25¢/litre
Soups	8.7%	12.5%	4.9%	7%

N/A= Not applicable.
min= But not less than.
(a)= In Canada, subject to 3.5% surcharge under CUSTA in 1991 and 5% surcharge MFN when imported in packages weighing less than 2.27 kg.
¢: Cents per kilogram.
¢/L: Cents per litre.
$/m^3: Dollar per cubic metre.

APPENDIX M

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APPENDIX N

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	Don Shires	Mushrooms
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	Richard Cameron	Mexico
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* Temporary or secondment agreement.

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